

The University of Maine

DigitalCommons@UMaine

---

Electronic Theses and Dissertations

Fogler Library

---

Spring 5-7-2021

## Examining Factors Predictive of Hazing in NCAA Division III Athletics and Considering the Implications for Prevention

David James Kerschner

University of Maine, david.kerschner@maine.edu

Follow this and additional works at: <https://digitalcommons.library.umaine.edu/etd>



Part of the [Educational Leadership Commons](#), and the [Higher Education Administration Commons](#)

---

### Recommended Citation

Kerschner, David James, "Examining Factors Predictive of Hazing in NCAA Division III Athletics and Considering the Implications for Prevention" (2021). *Electronic Theses and Dissertations*. 3399.  
<https://digitalcommons.library.umaine.edu/etd/3399>

This Open-Access Thesis is brought to you for free and open access by DigitalCommons@UMaine. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of DigitalCommons@UMaine. For more information, please contact [um.library.technical.services@maine.edu](mailto:um.library.technical.services@maine.edu).

**EXAMINING FACTORS PREDICTIVE OF HAZING IN NCAA DIVISION III  
ATHLETICS AND CONSIDERING THE IMPLICATIONS  
FOR PREVENTION**

By

David James Kerschner

B.A. University of Maine at Farmington, 2009

M.S. University of Massachusetts, 2010

M.B.A. University of Southern Maine, 2012

A DISSERTATION

Submitted in Partial Fulfillment of the

Requirements for the Degree of

Doctor of Philosophy

(in Higher Education)

The Graduate School

The University of Maine

May 2021

Advisory Committee:

Elizabeth J. Allan, Ph.D., Professor of Higher Education, Advisor

Cynthia Erdley, Ph.D., Professor of Psychology

Susan K. Gardner, Ph.D., Dean, College of Education, Oregon State University

Shannon McCoy, Ph.D., Associate Professor of Psychology

Dan Tillapaugh, Ph.D., Associate Professor of Counselor Education, California Lutheran University

© 2021 David James Kerschner

All Rights Reserved

**EXAMINING FACTORS PREDICTIVE OF HAZING IN NCAA DIVISION III  
ATHLETICS AND CONSIDERING THE IMPLICATIONS  
FOR PREVENTION**

By  
David James Kerschner

Dissertation Advisor: Dr. Elizabeth J. Allan

An Abstract of the Dissertation Presented  
in Partial Fulfillment of the Requirements for the  
Degree of Doctor of Philosophy  
(in Higher Education)  
May 2021

Hazing is a concern throughout postsecondary education, with students experiencing psychological, emotional, and physical harm. Although several scholars have identified college athletes to be an at-risk group for hazing and Division III is the largest division of the National Collegiate Athletic Association (NCAA), there is a lack of research focused on hazing in this context. Utilizing a critical quantitative research paradigm and considering limitations of the extant literature focused on NCAA Division III, I examined the nature and extent of varsity athlete and non-athlete hazing and factors predictive of hazing experiences for students and varsity athletes at five NCAA Division III institutions. This investigation followed a non-experimental, quantitative research design, with descriptive statistics, chi-square analyses, and logistic regression analyses informing my findings.

For all students, findings suggest: (a) varsity athletes and fraternity and sorority members were more likely to experience hazing than their peers belonging to other groups, (b) varsity

athletes were more likely to experience harassment hazing than their peers, (c) there were individual and campus level factors that predicted student hazing experiences, (d) experiences with more normalized and frequently occurring hazing behaviors were predictive of students experiencing less normalized and less frequently occurring hazing behaviors, and (e) types of hazing experiences were predictive of students identifying they were hazed. For varsity athletes, findings suggest: (a) there were significant institutional differences in varsity athlete hazing, (b) there were individual and campus level factors that predicted varsity athlete hazing experiences, (c) experiences with more normalized and frequently occurring hazing behaviors were predictive of varsity athletes experiencing less normalized and less frequently occurring hazing behaviors, and (d) experiences with intimidation hazing were not predictive of varsity athletes identifying they were hazed. Overall, these findings expand upon the work of scholars who have examined postsecondary and college athlete hazing and this investigation contributes to the literature by establishing the Hazing Attitudes and Perceptions Scale as a predictor of hazing and examining findings considering the spectrum of hazing. Given these findings and contributions, implications for prevention, practice, and future research are subsequently considered.

## **DEDICATION**

For my family. Thank you for all of your love, encouragement, and support of my educational goals over all these years.

## ACKNOWLEDGEMENTS

I must begin by thanking my advisor, Dr. Elizabeth Allan, for her guidance and support throughout my doctoral career. Thank you for letting me be a part of your research, giving me the valuable experience of presenting at conferences and publishing, and allowing me to develop as a scholar. I'd also like to extend my gratitude to the remainder of my advisory committee, Drs. Cynthia Erdley, Susan Gardner, Shannon McCoy, and Dan Tillapaugh, each of whom provided me with valuable feedback, advice, and encouragement during the process of completing my dissertation.

I'd like to state my appreciation of all the researchers, campus practitioners, and fellow graduate students that I've had the opportunity to collaborate with throughout the course of pursuing my doctorate in my role with StopHazing and the Hazing Prevention Consortium. I'd also like to acknowledge the support of the Janet Waldron Doctoral Research Fellowship from the University of Maine Graduate School. The financial support that this fellowship offered made a huge impact on my ability to complete this dissertation and contribute to other research projects throughout the past two years. Finally, Eliza, you're the best-thanks for everything!

## TABLE OF CONTENTS

DEDICATION .....	iii
ACKNOWLEDGEMENTS .....	iv
LIST OF TABLES .....	ix
LIST OF FIGURES .....	xiii
CHAPTER ONE: INTRODUCTION.....	1
Problem Statement .....	2
Hazing in Postsecondary Education.....	3
NCAA Division III .....	4
Research Questions .....	7
Conceptual Frameworks .....	8
Prevention Science and Campus Ecology.....	9
Researcher Positionality.....	11
Critical Quantitative Research .....	12
Outline.....	14
CHAPTER TWO: LITERATURE REVIEW .....	17
NCAA Division III Literature Review .....	20
The Creation of NCAA Division III .....	21
Current Status of NCAA Division III .....	22
NCAA Division III Empirical Research .....	26
Summary .....	35
College Athlete Hazing Literature Review .....	39
The Nature and Extent of College Athlete Hazing .....	39



Gender, Sexuality, and Hazing .....	44
Athlete Perceptions of Hazing and Barriers to Prevention .....	49
Summary .....	52
CHAPTER THREE: METHODS .....	54
Procedures .....	55
Instrumentation .....	56
Measure Development .....	58
Participants and Site Selection .....	64
Institutional Samples .....	64
Sample Demographics .....	67
Selection of Variables .....	70
Spectrum of Hazing, Independent, and Dependent Variables .....	75
Data Analysis .....	85
Data Accuracy, Missing Data, and Outliers .....	85
Descriptive Statistics .....	89
Chi-Square Analysis .....	90
Logistic Regression .....	91
Hypotheses .....	100
Research Question Set 1 .....	101
Research Question Set 2 .....	102
Research Question Set 3 .....	102
Summary .....	103
CHAPTER FOUR: RESULTS .....	106

Descriptive Statistics.....	107
Primary Organization Descriptive Statistics .....	108
Demographic Characteristics Descriptive Statistics .....	110
Institutional Descriptive Statistics .....	113
Identify Hazing Descriptive Statistics .....	116
Chi-Square Analyses.....	117
Primary Organization Chi-Square Analyses .....	118
Demographic Characteristics Chi-Square Analyses .....	121
Institution Chi-Square Analyses .....	124
Summary of Chi-Square Results.....	126
Logistic Regression.....	127
Sequential Logistic Regression Predicting Hazed for All Students.....	128
Sequential Logistic Regression Predicting Hazed for Varsity Athletes .....	135
Logistic Regression Analyses Predicting Violence Hazing.....	140
Logistic Regression Analyses Predicting Harassment Hazing .....	144
Logistic Regression Analyses Predicting Identify Hazing .....	146
Summary .....	150
CHAPTER FIVE: KEY FINDINGS, DISCUSSION, AND IMPLICATIONS .....	153
Key Findings.....	153
Research Question Set 1 .....	154
Research Question Set 2 .....	157
Research Question Set 3 .....	159
Summary .....	163

Discussion .....	164
Descriptive Statistics and Chi-Square Analyses .....	165
Logistic Regression.....	172
Limitations .....	175
Summary .....	177
Implications.....	178
Implications for Prevention and Practice .....	178
Implications for Future Research.....	185
Conclusion .....	187
REFERENCES .....	191
APPENDIX.....	214
BIOGRAPHY OF THE AUTHOR.....	230

## LIST OF TABLES

TABLE 1: Items Considered for Hazing Attitudes and Perceptions Scale .....	59
TABLE 2: Item Correlation Matrix .....	60
TABLE 3: Total Variance Explained by Each Component.....	61
TABLE 4: Hazing Attitudes and Perceptions Scale and Factor Loadings .....	63
TABLE 5: Overview of Participating Institutions .....	64
TABLE 6: Campus Hazing Survey Institutional Sample and Response Rate.....	65
TABLE 7: Varsity Athlete and Non-Athlete Participant Demographic Overview .....	68
TABLE 8: Sample Varsity Athlete Demographic Overview Relative to NCAA Division III .....	69
TABLE 9: Independent and Dependent Variable and Coding Overview.....	72
TABLE 10: Intimidation Hazing Behaviors .....	76
TABLE 11: Harassment Hazing Behaviors .....	77
TABLE 12: Violence Hazing Behaviors .....	78
TABLE 13: Missing Data Percentages .....	87
TABLE 14: Shapiro-Wilk Test of Normality Results for the Continuous Variables Hazing Attitudes and Perceptions and Prevention Activities.....	91
TABLE 15: Variance Inflation Factors (VIFs) for Remaining Independent Variables.....	95
TABLE 16: Box-Tidwell Test Logistic Regression Results.....	97
TABLE 17: Sensitivity Analyses Results for Hazed, Violence Hazing, Harassment Hazing, and Identify Hazing.....	99
TABLE 18: Descriptive Statistics for Hazing Experiences by Primary Organization .....	109
TABLE 19: Descriptive Statistics for Mean Hazing Attitudes and Perceptions and Prevention Activities by Primary Organization .....	110

TABLE 20: Descriptive Statistics for Hazing Experiences for all Respondents by Demographic Characteristics .....	111
TABLE 21: Descriptive Statistics for Mean Hazing Attitudes and Perceptions and Prevention Activities for all Respondents by Demographic Characteristics .....	112
TABLE 22: Descriptive Statistics for Hazing Experiences for Varsity Athletes by Demographic Characteristics .....	113
TABLE 23: Descriptive Statistics for Mean Hazing Attitudes and Perceptions and Prevention Activities for Varsity Athletes by Demographic Characteristics .....	113
TABLE 24: Descriptive Statistics for Hazing Experiences for all Respondents by Institution .....	114
TABLE 25: Descriptive Statistics for Mean Hazing Attitudes and Perceptions and Prevention Activities for all Respondents by Institution .....	115
TABLE 26: Descriptive Statistics for Hazing Experiences for Varsity Athletes by Institution .....	116
TABLE 27: Descriptive Statistics for Mean Hazing Attitudes and Perceptions and Prevention Activities for Varsity Athletes by Institution .....	116
TABLE 28: Chi-Square Analyses for Primary Athlete .....	119
TABLE 29: Chi-Square Analyses for Primary Greek .....	119
TABLE 30: Chi-Square Analyses for Primary Athlete or Primary Greek .....	121
TABLE 31: Chi-Square Analyses for Male for all Respondents.....	122
TABLE 32: Chi-Square Analyses for Minoritized for all Respondents .....	123
TABLE 33: Chi-Square Analyses for Male Varsity Athletes.....	124
TABLE 34: Chi-Square Analyses for Minoritized Varsity Athletes .....	124

TABLE 35: Chi-Square Analyses for Institution, all Respondents .....	126
TABLE 36: Chi-Square Analyses for Institution, Varsity Athletes .....	126
TABLE 37: Chi-Square Analyses Significance and Effect Size Summary.....	127
TABLE 38: Description of Blocks and Independent Variables Included in the Sequential Logistic Regression Analysis for all Students .....	129
TABLE 39: Variance Inflation Factors (VIFs) for Sequential Logistic Regression Analysis Predicting Hazed for all Students .....	131
TABLE 40: Logistic Regression Results for Sequential Logistic Regression Analysis Predicting Hazed for all Students .....	133
TABLE 41: Logistic Regression Results for Backwards Stepwise Logistic Regression Analysis Predicting Hazed for all Students .....	135
TABLE 42: Description of Blocks and Independent Variables Included in the Sequential Logistic Regression Analysis for Varsity Athletes.....	136
TABLE 43: Logistic Regression Results for Sequential Logistic Regression Analysis Predicting Hazed for Varsity Athletes .....	139
TABLE 44: Logistic Regression Results for Backwards Stepwise Logistic Regression Analysis Predicting Hazed for Varsity Athletes .....	140
TABLE 45: Logistic Regression Results with Intimidation Hazing and Harassment Hazing Predicting Violence Hazing for all Students .....	142
TABLE 46: Logistic Regression Results with Intimidation Hazing and Harassment Hazing Predicting Violence Hazing for Varsity Athletes.....	144
TABLE 47: Logistic Regression Results with Intimidation Hazing Predicting Harassment Hazing for All Students.....	145

TABLE 48: Logistic Regression Results with Intimidation Hazing Predicting Harassment Hazing for Varsity Athletes .....	146
TABLE 49: Variance Inflation Factors (VIFs) for Binary Logistic Regression Analyses Predicting Identify Hazing for Students and Varsity Athletes.....	147
TABLE 50: Logistic Regression Results Predicting Identify Hazing for all Students.....	148
TABLE 51: Logistic Regression Results Predicting Identify Hazing for Varsity Athletes .....	149

**LIST OF FIGURES**

FIGURE 1: The Spectrum of Hazing.....	10
FIGURE 2: Maximum Likelihood Estimation Scree Plot .....	62



## CHAPTER ONE: INTRODUCTION

On March 19, 2016, a 19-year-old Wheaton College (Illinois) football player who had recently transferred to the college was kidnapped from his dorm room by five of his teammates (Gutowski & St. Clair, 2017a). According to reports the first-year athlete was punched, bound with duct tape, partially stripped, and had his head covered with a pillowcase before being forced into a car. In the car, the kidnappers allegedly played Middle Eastern music and suggested Muslims wanted to assault the first-year athlete. The veteran athletes drove him to an unfamiliar off-campus baseball field, threw dirt on him, took his cell phone and wallet, and left him stranded and underdressed in 45-degree weather (Gutowski & St Clair, 2017b; Stack & Hauser, 2017). Prior to midnight, the athlete reportedly made it to the emergency room and learned he had experienced muscle tears in both shoulders requiring surgery. Later withdrawing from Wheaton College, the first-year athlete was quoted as saying the hazing incident “had a devastating effect on my life. What was done to me should never occur in connection with a football program or any other activity” (Gutowski & St. Clair, 2017a, para. 6).

In September 2017 the five athletes who kidnapped the first-year athlete were charged with aggravated battery, mob action, and unlawful restraint (Stack & Hauser, 2017). Wheaton College, a member of Division III of the National Collegiate Athletic Association (NCAA), suspended the five athletes from the fourth ranked football team and released a statement referring to hazing as unacceptable and counter to the institution’s values (Gutowski & St. Clair, 2017b; Stack & Hauser, 2017; Wheaton College, 2017). It is alleged, however, the institutional community knew about hazing and downplayed its severity prior to the lawsuit being filed. According to the first-year athlete’s lawyer, hazing was “an open secret at Wheaton College, a practice well-established and long-standing within the Wheaton College football program,

handed down from class to class while the head coach and other adults, aware of the practice, looked the other way” (Gutowski & St. Clair, 2018, para. 4). In the aftermath of the suspensions and charges, some parents of Wheaton College football athletes came forward and said they had previously heard about hazing associated with the program (Koop, 2017). Charged with felonies, each of the hazers eventually accepted plea deals, were convicted of misdemeanors, and completed community service. Wheaton College reached a confidential settlement with the first-year athlete (Ward, 2018, 2019).

### **Problem Statement**

This example of hazing at Wheaton College illustrates some of the effects college athlete hazing can have on individuals, teams, and postsecondary institutions and aligns with many of the findings of researchers examining hazing within college athletics (e.g., Allan & Madden, 2008; Hoover, 1999). Hoover (1999) defined hazing as “any activity expected of someone joining a group that humiliates, degrades, abuses or endangers, regardless of the person’s willingness to participate” (p. 8). Recognizing that hazing can occur after individuals have formally joined a group, Allan and Madden (2008) built upon Hoover’s definition and defined hazing as “any activity expected of someone joining or participating in a group that humiliates, degrades, abuses, or endangers them regardless of a person’s willingness to participate” (p. 2). Hazing can be understood as a form of interpersonal violence specific to a group context and the intimidating, harassing, and violent behaviors associated with hazing can impede the benefits of participating in college athletics by threatening the health and safety of athletes and interrupting positive learning environments (Srabstein, 2008; Srabstein et al., 2008). Emotional, psychological, and physical harm are documented outcomes of hazing and, at times, the consequences of hazing can be lethal (Allan & Madden, 2008; Hoover, 1999; Nuwer, 2018).

## **Hazing in Postsecondary Education**

Colleges and universities are often held in idyllic regard and considered spaces where students, professors, and staff collaborate to push themselves as academics, undergo positive growth, and forge lifelong connections. Violent, intimidating, and harassing behaviors such as assault, sexual harassment, and hazing, however, disabuse collegiate stakeholders of such notions and can interfere with the more practical missions and goals of institutions of postsecondary education (Langford, 2004). Examining responses from more than 11,000 students on 53 campuses throughout the United States, Allan and Madden (2008) determined 55% of college students involved in student organizations had experienced activities or behaviors meeting their previously outlined definition of hazing. Hazing occurred across a broad range of groups, teams, and clubs, with those involved in varsity athletics (74%), fraternities and sororities (73%), club sports (64%), and band and other performing arts organizations (56%) most likely to have experienced hazing. Men (61%) were more likely than women (52%) to have experienced hazing (Allan & Madden, 2012).

Other examinations of hazing in postsecondary education have resulted in similar, albeit slightly dampened, findings. Silveira and Hudson (2015) concluded that 30% of students involved in college marching bands experienced hazing. Campo and colleagues (2005) found that 36% of undergraduate students had participated in hazing, with varsity athletes, fraternity members, and men more likely than their peers to have engaged in hazing-related behaviors. Owen et al. (2008) noted that while hazing was reported to occur across many types of organizations, fraternity members experienced the most hazing behaviors. Allan and colleagues (2019) concluded that 26% of undergraduate students at seven of the eight institutions comprising the initial cohort of the Hazing Prevention Consortium had experienced hazing, with

students involved in varsity athletics (42.7%), fraternities and sororities (38.3%), and club sports (29.5%) most likely to have experienced hazing.

Turning to specific hazing behaviors, in a study of emergency room visits Finkel (2002) documented hazing practices such as beating, branding, forced consumption of nonfood substances, excessive exercise, psychological abuse, and sexual assault. Allan and Madden (2008) found the most common hazing activities amongst postsecondary students to be participating in a drinking game (26%); singing or chanting in a public situation or at an unrelated event (17%); associating with specific people and not others (12%); drinking large amounts of alcohol to the point of getting sick (12%); being deprived of sleep (11%); being screamed, yelled, or cursed at by other members (10%); and drinking large amounts of a non-alcoholic beverage (10%). Similarly, Allan et al. (2019) found the most frequently experienced hazing behaviors for students were participating in a drinking game (9.8%); associating with specific people and not others (8.7%); being yelled, screamed, or cursed at by other members (7.6%); acting as a personal servant to other members (6.9%); and attending a skit night or roast where other members are humiliated (6.5%).

### **NCAA Division III**

The preceding examination of the extant literature has illustrated the harm hazing can have for students across various organizational affiliations in postsecondary education. Students at colleges and universities are experiencing physical, psychological, and emotional harm that may undermine the benefits of extracurricular involvement. Though several researchers (e.g., Allan & Madden, 2008; Allan et al., 2019; Campo et al., 2005; Hoover, 1999) have concluded that students participating in varsity athletics are more likely than their collegiate peers to experience hazing, I contend and will illustrate that further empirical research focused on NCAA

Division III is warranted given: (a) the uniqueness of NCAA Division III from NCAA Division I and other contexts where the nature and extent of hazing is better understood; (b) documented media accounts of hazing occurring within NCAA Division III athletics teams; and (c) the shifting identity, expansion, and scope of NCAA Division III, leading to greater institutional diversity within the division in the last two decades.

NCAA Division III is the largest division of the National Collegiate Athletic Association (NCAA). Comprised of just under 450 colleges and universities, 80% of which are private institutions, NCAA Division III constitutes approximately 40% of the NCAA's overall membership and provides participation opportunities to more than 190,000 athletes (NCAA, 2019). Within NCAA Division III there is substantial institutional diversity, with membership ranging from small liberal arts colleges to branches of large public university systems. During the 2018-2019 academic year the smallest Division III institution enrolled 274 undergraduate students and the largest enrolled 25,175 undergraduates, with a median of 1,739 undergraduates ("Division III 2018-2019 facts and figures," 2018). In stark contrast to NCAA Division I institutions where, on average, 4% of the overall student body participates in varsity athletics, at NCAA Division III institutions 25% of enrolled students are varsity athletes (NCAA, 2019; "Division III 2018-2019 facts and figures," 2018). This percentage, however, ranges from 2% to 55%, further illustrating NCAA Division III institutional diversity and the disparate impact of athletics on these campuses. Noting this institutional diversity, Bass and colleagues (2014) preliminarily outlined four types of Division III institutions: (a) academically elite (e.g., Massachusetts Institute of Technology, University of Chicago, Williams College, Swarthmore College); (b) large public (e.g., University of Texas at Dallas, Buffalo State College, University of California, Santa Cruz, University of Wisconsin-Whitewater); (c) mission-driven privates

(e.g., Luther College, Hope College, University of St. Thomas, Simmons University); and (d) liberal arts colleges and universities (e.g., New England College, University of Maine at Farmington, DePauw University, Massachusetts College of Liberal Arts).

Given the large, diverse institutional membership of NCAA Division III, the number of athletes competing at the NCAA Division III level, and Allan and Madden's (2008) finding that 74% of college athletes reported participating in behaviors meeting the definition of hazing in order to join or maintain membership with their varsity team, it is unsurprising that Wheaton College is not the only institution competing at the NCAA Division III level to deal with public reports of hazing in recent years. Bowdoin College administrators, for instance, reworked the institutional hazing policy in 2008 after discovering "mild and moderate" hazing occurred within the women's squash and sailing programs. Later, the college vacated a 2010-2011 men's hockey conference championship and cancelled the second half of the 2013 men's tennis season due to hazing allegations involving alcohol (Brogan, 2013; Herz, 2008). SUNY Geneseo cancelled their 2012 women's volleyball season after a report surfaced that 11 returning players brought first-year athletes to an off-campus apartment, blindfolded and handcuffed them, and ordered them to drink alcoholic beverages (Dymski, 2012). Middlebury College, the University of Mary Washington, and Ursinus College each cancelled swimming seasons or suspended swimmers for participating in hazing involving alcohol consumption and the Connecticut College student newspaper *The College Voice* documented alcohol related hazing across several varsity athletics teams (Dorning, 2011; Keith, 2019; Markham, 2016; Mayer, 2006; Schwartzburg, 2010). Beyond hazing involving alcohol consumption, Salve Regina University investigated allegations of sexually inappropriate hazing in its football program. Additionally, six members of the Claremont-Mudd-Scripps men's track team, some of whom were naked, were reported for

stealing a photo of a runner from rival Pomona College, assaulting a student employee in the process (Borg, 2018; Hutchinson, 2018; Snowden & Rod, 2018).

Miranda (2009) noted both the variety of academic profiles of the institutions comprising NCAA Division III and the lack of empirical research focused on these institutions. Although Hoover (1999) concluded that NCAA Division III athletes experienced similar rates of hazing as their Division I and Division II peers, there has been a dearth of scholarly inquiry examining hazing in a Division III context. Empirical research focused on hazing in NCAA college athletics has often not specified the divisional level of participants, instead analyzing hazing from a cross-divisional perspective (e.g., Allan & Madden, 2012; Van Raalte et al., 2007; Waldron & Kowalski, 2009). Other researchers examining hazing in postsecondary athletics have focused on university athletes in Canada (e.g., Bryshun & Young, 1999; Hamilton et al., 2016; Johnson et al., 2018) or the United Kingdom (e.g., Anderson et al., 2012; Lafferty et al., 2017). Given the size, scope, and institutional diversity of NCAA Division III outlined previously, further examination of hazing in this context is warranted, particularly considering the identity shift, expansion, and increase in competitiveness the division has undergone in the two decades since Hoover's findings (Foo & Wells, 2011; Katz & Clopton, 2014; Katz et al., 2015; Paule-Koba & Farr, 2013; Sparvero & Warner, 2013). This investigation was designed to begin filling this illustrated gap by examining the nature and extent of athlete and non-athlete hazing across five NCAA Division III institutions, where I explored factors predictive of hazing, and provide the implications for research, prevention, and practice.

### **Research Questions**

Accounting for the concerns discussed in the preceding problem statement and gaps identified in the subsequent literature review, I conducted an investigation to examine the hazing

experiences of varsity athletes and all students and explore factors predictive of hazing at five NCAA Division III institutions. Specifically, I sought to answer the following sets of research questions:

1. Do varsity athletes at these NCAA Division III campuses have different hazing experiences than their non-athlete peers? What is the nature and extent of these Division III varsity athlete hazing experiences? Are there institutional differences?
2. Across levels of the social ecology, are there individual and campus level factors that predict student hazing experiences at these Division III campuses? Are there factors that predict varsity athlete hazing experiences at these institutions?
3. Building from the typology of hazing outlined by Hoover (1999) and utilizing the spectrum of hazing (Allan, 2015; Allan & Kerschner, 2020), are intimidation and harassment hazing experiences predictive of varsity athletes and all students experiencing violence hazing? Are intimidation hazing experiences predictive of varsity athletes and all students experiencing harassment hazing? What types of hazing behaviors are students and varsity athletes most likely to identify as hazing?

### **Conceptual Frameworks**

I sought to examine the nature and extent of athlete and non-athlete hazing experiences and explored factors predictive of NCAA Division III college athlete hazing through the lenses of campus climate, prevention science, and campus ecology. Pascarella and Terenzini (2005) noted the development of college students is influenced by their experiences with and perceptions of campus climate. Students who perceive their campus as welcoming are more likely to demonstrate positive learning outcomes (Pascarella & Terenzini, 2005; Reason et al., 2006). Rankin et al. (2011) defined campus climate as “the learning, living, and working



environments of colleges and universities” (p. 8). Similarly, Renn and Patton (2011) asserted that campus climate is the “overall ethos or atmosphere of a college campus mediated by the extent to which individuals feel a sense of safety, belonging, engagement within the environment, and value as members of the community” (p. 248).

Cress (2002) articulated the difference between campus climate and campus culture, noting that culture includes elements such as organizational structure and values that are deeply embedded and thus resistant to change. As noted previously, my research focuses on campus climate which, as Cress asserted, is comprised of the current patterns of behavior and perceptions of an organization that tend to be more malleable and susceptible to change (Hart & Fellabaum, 2008). Throughout this investigation the concept of campus climate impacted the design of my study, specifically influencing the gathering of data related to attitudes and perceptions about the institutional and organizational environment of a particular campus.

### **Prevention Science and Campus Ecology**

As stated previously, hazing is considered a form of interpersonal violence (Allan & Madden, 2012). Dahlburg and Krug (2002) defined interpersonal violence as “the intentional use of physical force or power, threatened or actual, against another person or against a group or community that results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation” (p. 2). Prevention strategies adapted from more fully examined areas of interpersonal violence (e.g., bullying, sexual violence) may be utilized in emerging areas of prevention (Casey & Lindhorst, 2009; Mercy et al., 1993; Nation et al., 2003; Wilkins et al., 2014). Adapting from the continuum of sexual violence proposed by Kelly (1987) and the bystander intervention program *Bringing in the Bystander* (e.g., Edwards et al., 2019; McMahon et al., 2014), Allan (2015) and Allan and Kerschner (2020) outlined the spectrum of

hazing. Hazing behaviors occurring most frequently (e.g., social isolation, acting as a personal servant to other members), as conceptualized within the spectrum of hazing, are infrequently recognized as hazing, suggesting a normalization of these actions. Alternatively, hazing behaviors occurring less frequently (e.g., forced consumption of alcohol, branding) are more readily recognized as hazing. Figure 1 provides a visual of the spectrum of hazing, as conceptualized by Allan and Kerschner.

Figure 1

*The Spectrum of Hazing*



(Allan, 2015; Allan & Kerschner, 2020)

Building upon Bronfenbrenner's (1979) assertion that human behavior is shaped by elements at multiple levels and, in order to understand individual human behavior, the entire

ecological system in which the individual resides must be accounted for, Dahlburg and Krug's (2002) social ecological model (SEM) outlined that effective interpersonal violence prevention involves targeting individual, group, and community factors. Langford (2004, 2008) adapted this multilevel, ecological approach to institutions of higher education, using the SEM to inform a problem analysis that considered protective factors reducing the likelihood of hazing and risk factors increasing the likelihood of hazing. Williams et al. (2006) adapted the social ecological model to explore college athlete alcohol consumption, concluding that athletes have an additional set of influential factors to consider compared to their non-athlete peers in the form of teams, coaches, and athletic department rules and policies.

This inquiry was designed to account for institutional context. Factors such as institutional type, student demographics, and geographic location were noted and included in the investigation. Campus ecology, adapted from a public health framework, informed my approach to data analysis and interpretation by exploring factors that may contribute to, and protect from, hazing at multiple levels of the campus ecology including intrapersonal, interpersonal, group/organization, university, community, and society (Dahlburg & Krug, 2002; McElroy et al., 1988; Stokols, 1996).

### **Researcher Positionality**

Although this investigation is a quantitative examination of the nature and extent of athlete and non-athlete hazing experiences and factors predictive of hazing at five NCAA Division III institutions, it is important to note my positionality as a researcher. I come to this topic both as a scholar who aspires to conduct research that informs practice and change in college athletics and as a former NCAA Division III athlete and administrator that is critical of the "professional-commercial" model of American intercollegiate athletics (Smith, 2011; Thelin,

1996). The professional-commercial model, as outlined by Thelin (1996) and Smith (2011), features professionalized coaches, administrators, and support staff and is defined by a hyper-commercialized sporting landscape. Scholars such as Bok (2003), Kirp (2003), and Sack (2009) have described the professional-commercial model as a subset of “academic capitalism,” a business-oriented, revenue-maximizing approach to university governance. As a critical scholar, I am inherently skeptical of the common narrative, further discussed in the literature review, that positions NCAA Division III athletics as separate from these models, describing Division III athletics “as pure as college sports get” (Looney, 1994, para. 4) and “the Division III athlete [as] the last true amateur, who plays for the good of the sport” (Grites & James, 1986, p. 24).

College athletics, like other areas of American higher education, have historically privileged white, heterosexual, and cisgender men (Crosset, 2007; Hawkins, 2010; Messner, 1988; Thelin, 1996). Inequalities in who is allowed to participate in collegiate sport and who extracts the benefits of collegiate sport participation persist today (Lapchick, 2020). I am aware that as a white, heterosexual, and cisgender man, in my experiences as a former NCAA Division III athlete and administrator I have benefited in numerous ways and I continue to benefit from hyper-commercialized, exploitative NCAA Division I revenue-generating athletics. I understand the connections between NCAA Division I and Division III that serve to perpetuate the professional-commercial model of intercollegiate athletics (Hawkins, 2010).

### **Critical Quantitative Research**

Building from the work of Stage (2007) and Stage and Wells (2014), scholars such as Sablan (2019) and Tabron (2019) have recently noted that the work of a quantitative criticalist researcher involves utilizing quantitative methods to reveal outcome inequalities and question models, measures, and other analytical practices often viewed as value-neutral in order to

advocate for social justice. According to Tabron, “Researchers engaged in critical quantitative work are concerned about research questions asked and decolonizing research designs and interpretations that reproduce oppression and maintain the status quo” (p. 278). Rios-Aguilar (2014) asserted scholars engaged in critical quantitative research must ensure that findings derived from their scholarship are used to change practices and inform policies. Hernandez (2014) commented on the paradigmatic tensions inherent to undertaking critical quantitative research.

Given my quantitative methods and my critical researcher positionality that were informed by my experiences as a NCAA Division III athlete, administrator, and emerging scholar, I approached this investigation from a critical quantitative research paradigm (Stage, 2007). Hernandez (2014) noted that the values of critical researchers are “embedded, not external, to our quantitative criticalist stance, which informs what we choose to study, the kinds of questions we ask, and how we go about research, including data collection and analysis” (p. 96). Stage (2007) commented “If we focus solely on research methods...we see little difference between the [positivist or postpositivist] approach...the most interesting [differences are] with the motivation for the research” (p. 9). Indeed, while the research methods outlined in Chapter Three are similar to the methods that would be utilized if I approached this inquiry from a postpositivist paradigm (i.e., I seek to justify selection of logistic regression models based on several criteria derived from a review of scholarship and identify hypotheses associated with my research questions), my motivations, research questions, and goals are informed by a critical quantitative approach (Stage, 2007).

For instance, as a critical quantitative researcher, I was motivated to conduct this research in order to examine if populations that have historically had their access to collegiate sport

limited (i.e., minoritized athletes and female athletes) disproportionately experienced hazing and/or certain types of hazing in the predominantly white, male sporting environment of NCAA Division III athletics. That is to say, are Division III minoritized athletes and female athletes more at risk of experiencing hazing than their white and male athlete peers in order to belong to their varsity athletics teams? Furthermore, an important goal of this investigation that was connected to my researcher positionality and critical quantitative research paradigm was to examine the experiences of varsity athletes across diverse types of institutions throughout NCAA Division III, as much of the extant literature has centered athletes participating at highly selective, academically elite liberal arts colleges.

### **Outline**

In this chapter I have illustrated that hazing is a concern throughout postsecondary education, with students who participate in a broad range of student groups experiencing psychological, emotional, and physical harm that undermines the benefits of group participation at colleges and universities throughout the United States. Several scholars have identified college students participating in varsity intercollegiate athletics as a particularly at-risk group, concluding that athletes are more likely than their collegiate peers to report experiencing behaviors meeting the definition of hazing. Most research examining hazing in college athletics, however, is focused on NCAA Division I, conducted from a cross-divisional perspective, or examines hazing in collegiate athletics in Canada or the United Kingdom. Given this, I contend that further empirical research focused on NCAA Division III is warranted due to: (a) the uniqueness of NCAA Division III from NCAA Division I and other contexts such as Canadian and United Kingdom university athletics where hazing has been examined; (b) documented media accounts illustrating the harm hazing has on some Division III athletes and community

members; and (c) the shifting identity, expansion, and scope of NCAA Division III, leading to changes in the membership composition of the division in the previous 20 years. Campus climate, the spectrum of hazing, and campus ecology are the conceptual frameworks informing this investigation and influencing my research questions seeking to understand the nature and extent of varsity athlete and non-athlete hazing and examine factors predictive of varsity athlete and student hazing experiences at five NCAA Division III institutions. Building from my previous experiences as a Division III athlete, college athletics administrator, and critical scholar that inform my desire for research to inform change, I approached this investigation from a critical quantitative research paradigm.

In the following chapter, I review literature relevant to this investigation. To begin, I provide an overview of NCAA Division III, documenting the historical context in which the division's membership shift occurred and putting forth a critique of common narratives associated with the division, as discussed briefly in my researcher positionality. Next, I synthesize extant scholarship focused on NCAA Division III athletes, administrators, and institutions, providing an overview of research focused on athlete academic outcomes, campus experiences, athletic identity, and other areas. From this synthesis, I identify gaps in the literature and discuss the implications for both this research and subsequent research focused on NCAA Division III. Following this, I synthesize empirical research focused on college athlete hazing in the United States, Canada, and the United Kingdom, summarizing the findings of quantitative studies examining the nature and extent of athlete hazing in these contexts and qualitative studies documenting shifting athletic norms around gender, sexuality, and hazing that may be altering college athlete hazing experiences. I also synthesize scholarship focused on athlete perceptions of hazing and barriers to hazing prevention before discussing implications that provide

justification for conducting this investigation. In Chapter Three, I provide an overview of the research design and methods utilized in this study, discussing: (a) procedures, (b) instrumentation, (c) participants and site selection, (d) selection of variables, (e) data analysis, and (f) hypotheses. In Chapter Four I present the results of the descriptive, chi-square, and logistic regression analyses before discussing the findings and implications for prevention, practice, and research in Chapter Five. As an important note, following APA style guidelines for bias-free language, throughout this research I used specific nouns to identify people or groups of people (e.g., women, men) whenever possible and used the terms “male” and “female” as adjectives (e.g., male athletes, female athletes), rather than as nouns (APA Style, 2021).



## CHAPTER TWO: LITERATURE REVIEW

Often serving as public representations of colleges and universities, intercollegiate athletics have a unique status within American higher education (Crosset, 2007; Suggs, 2006; Thelin, 1996). Suggs (2006) asserted the United States is “the only country in the world where academe and athletics are so closely linked...[winning teams] generate positive headlines; good feelings among alumni, donors, and potential students; and, for a handful of universities, a fair amount of money” (p. 1). This intense public interest and potential for revenue generation has led to numerous academic abuses and calls from reformers to bring college sports into alignment with the goals of higher education (Smith, 2011; Zimbalist, 1999). As Thelin (1996) stated, “Intercollegiate athletics are American higher education’s ‘peculiar institution.’ Their presence is pervasive, yet their proper balance with academics remains puzzling” (p. 1).

The National Collegiate Athletic Association (NCAA) is the organization tasked with regulating the aforementioned balance between athletics and academics (Bowen & Levin, 2003; Estler & Nelson, 2005). Other governance organizations such as the National Association of Intercollegiate Athletics (NAIA) and the National Junior College Athletic Association (NJCAA) have fewer members and less historical influence (Estler & Nelson, 2005; Smith, 2011). According to Estler and Nelson (2005), “The NCAA dominates the governance of college sports based on its membership size, its early governance of the largest and most visible football programs, and its resources to support a large staff and infrastructure” (p. 17).

Founded in 1906 as the Intercollegiate Athletic Association of the United States in response to several high-profile football deaths, the NCAA expanded beyond governance and began offering championships in 1921 (Bowen & Levin, 2003; Smith, 2011). In 1973 the NCAA reorganized into three legislative and competitive divisions (I, II, and III) ostensibly based on the

mission, scope, and resources of members' athletic programs (Bowen & Levin, 2003; Estler & Nelson, 2005). NCAA Division I institutions offer full and partial athletic scholarships, aim to compete on a national scale, and strive to be self-sufficient through revenue generation derived primarily from men's basketball and football programs (Bowen & Levin, 2003; Sack & Staurowsky, 1998). NCAA Division II institutions offer full and partial athletic scholarships, aim to compete on a regional scale, generally sponsor a narrower base of athletic teams, and do not have expectations of being self-sufficient (Bowen & Levin, 2003; Sack & Staurowsky, 1998). NCAA Division III institutions do not offer athletic-related financial aid, aim to compete on a regional scale, and emphasize the impact of athletics on participants rather than spectators (Bowen & Levin, 2003; Estler & Nelson, 2005; Sack & Staurowsky, 1998).

According to Cooper and Weight (2012), the emphasis placed on the educational experience of college athletes and the lack of athletic scholarships means that "Division III institutions are generally regarded as bastions of holistic education largely sheltered from the commercial enticements that encroach upon other NCAA divisions" (p. 340). Simon (2010) contended that Division III institutions "are still thought of as relatively pure examples of what college sports at their best should be" (p. 140), Grites and James (1986) commented that "the Division III athlete is the last true amateur, who plays for the good of the sport" (p. 24), and Looney (1994) wrote in *Sports Illustrated* that Division III sports are "as pure as college sports get" (para. 4). Indeed, advocates of the Division III model have a tendency to describe institutions, teams, and individuals participating at the level in monolithic and idealistic terms, frequently in comparison to Division I athletics, which are viewed as hyper-commercialized and running counter to the educational goals of institutions of higher education (e.g., Branch, 2011; Sack, 2009; Smith, 2011). As Mike Jones, then the director of athletics at NCAA Division III

institution Howard Payne University, asserted, “Division III athletics is college athletics at its purest and finest. Our student-athletes are students first, seeking a degree, and athletes second, playing for the love of the game” (Copeland, 2012). L. Jay Lemons (2016), president of Susquehanna University, noted Division III aspires “to be something different from big-time college athletics. The founding philosophy asserted that athletics was part of the educational process and that student-athletes should be treated in a manner similar to other students” (para. 2). John Roush (2016), president of Centre College, noted that compared to NCAA Division I, “What we have the opportunity to accomplish in the lives of student-athletes is profoundly better. We have kept the balance that at one time was relatively consistent across all divisions” (para. 10). W. Kent Barnds (2015), executive vice president of Augustana College, contended “those seeking reform should take a deeper look at D3 athletics” (para. 7).

Scholars such as Draper (1996), Bowen and Levin (2003), Miranda (2009), and Bass et al. (2014), however, have illustrated that this popular narrative is an oversimplification and that there is a great deal of institutional and philosophical diversity within NCAA Division III.

Pointedly, Draper asserted:

Division III sports can never be as innocent as it claims or wants to be. Too much money is invested in it, too many constituencies care too deeply about it, and too many careers are connected to it. It cannot embody the essence of sports...Only the darker and larger shadow cast by Division I prevents Division III’s loss of innocence from becoming more apparent. (p. 49)

Building upon their work and the work of others who have documented the expansion and identity shift of NCAA Division III in recent years (e.g., Foo & Wells, 2011; Katz & Clopton, 2014; Katz et al., 2015; Paule-Koba & Farr, 2013; Sparvero & Warner, 2013), I begin the

following literature review by examining the history and current composition of NCAA Division III. This analysis presents a more complete, nuanced view of Division III, illustrating shifting membership and establishing a basis for further scholarly examination of the division. Following this, I synthesize extant literature focused on NCAA Division III athletes, administrators, and institutions, providing an overview of the emergent themes present in scholarship focused on athlete academic outcomes, athlete campus experiences, athletic identity, and other research areas. Finally, I will identify gaps in the current literature and discuss the implications for this research and future investigations.

### **NCAA Division III Literature Review**

Rather than being born out of the desire to create something distinct from the hyper-commercialized model of NCAA Division I athletics, the formation of NCAA Division III was the direct result of environmental forces within American higher education that created dissatisfaction amongst smaller institutions and allowed competing college athletics governance organizations such as the National Association of Intercollegiate Athletics (NAIA) to pose a threat (Katz et al., 2015). Following World War II, the Servicemen's Readjustment Act of 1944 (i.e., the GI Bill) transformed higher education as enrollment grew from 1.3 million to two million (Katz & Seifried, 2014; Thelin, 1996). Public land-grant institutions were best positioned to capture much of this growth, as were established privates such as Harvard (Thelin, 2011). Smaller liberal arts colleges remained more stable in terms of overall size during this time (Katz & Clopton, 2014).

This unprecedented expansion in higher education impacted college athletics (Thelin, 1996). From the first NCAA sponsored championship in 1921 until the 1950s, all NCAA members were organized into a single competitive division regardless of institutional size or

athletics budget. The rapid growth of public land-grant institutions and more established privates served to warp competitive balance within the one-division structure, restricting access to championships for smaller liberal arts institutions (Crowley, 2006; Falla, 1981; Katz & Seifried, 2014). In 1957 the NCAA attempted to correct this problem by introducing a two division “College-University” structure and hosting College Division championships for men’s basketball and track (Crowley, 2006). Ultimately, the College Division failed to meet the needs of smaller institutions because it did not offer a separate governance structure, the NCAA did not provide guidelines for which division institutions should participate in, and members were free to switch affiliation on a program-to-program and year-to-year basis (Katz & Clopton, 2014). The College Division persisted for the next 15 years, however, adding championships for individual sports such as golf, track, tennis, and wrestling in 1963 and expanding to 10 championships during the 1972-73 academic year (Crowley, 2006; Katz & Seifried, 2014).

During the 1950s and 1960s, with smaller NCAA member institutions increasingly voicing their disapproval, the NAIA began to compete with the NCAA for membership (Katz & Seifried, 2014). The NAIA targeted teachers’ colleges, liberal arts institutions, and historically Black colleges often ignored by the NCAA and enticed membership through the creation of organized basketball and football playoffs and an alternative governance structure (Washington, 2004). This approach was successful, particularly amongst historically Black colleges that had largely been excluded from any role in NCAA governance, and the NAIA reached its membership peak of 558 institutions in 1973 (Katz & Seifried, 2014; Katz et al., 2015).

### **The Creation of NCAA Division III**

Recognizing the threat of the NAIA, flaws of the College-University structure, and concerns of smaller institutions, the NCAA established a committee for reorganization in 1971

(Katz & Seifried, 2014). Following the defeat of a two-division proposal at the January 1973 convention, NCAA leadership held their first special convention in August 1973 and approved the current three-division governance structure (Crowley, 2006; Katz & Seifried, 2014). Of the NCAA's 644 member institutions, 233 (36%) opted to join NCAA Division III (Crowley, 2006).

Beyond being a competitive destination for smaller institutions, the initial identity of NCAA Division III was unclear. The Division III philosophy statement was not adopted until 1983 and many of the ideals popularly attributed to the division today were initially absent (National Collegiate Athletic Association, 2009). The first piece of legislation passed by membership was a rule abolishing any athletic-related financial aid, which in essence became the founding tenet of the new cohort of institutions (Crowley, 2006). Kenneth Weller, the former president of Central College (Iowa) and primary author of the Division III philosophy statement, commented on the division's unclear early identity stating, "All we did was define Division III as being the absence of financial aid for students. It was a negative designation-who are we? We ain't this. It was very frustrating" ("DIII celebrating 40<sup>th</sup> anniversary," 2013, para. 11).

### **Current Status of NCAA Division III**

NCAA Division III has experienced tremendous growth since 1973 as many former NAIA members have opted to join the NCAA at the Division III level (Lederman, 2008; Powers, 2008). In the almost 50 years since establishment, Division III has gone from 233 members comprising 36% of NCAA institutions to 449 members comprising 40% of NCAA institutions ("Division III facts and figures," 2018). This growth diversified the institutional composition of NCAA Division III, shifting the division away from being primarily academically elite, liberal arts colleges. Much the division's growth was realized between 1990 and 2008 when membership ballooned from 300 members to 420 members, an average annual increase of 6.67

institutions per year (Lederman, 2008; Powers, 2008). Prior to 1990, the average annual NCAA Division III growth was 4.53 institutions per year and since 2008 the division has expanded at a rate of 2.64 institutions per year.

### ***Institutional Diversity and Increased Spending***

As previously noted, within the membership base of NCAA Division III there is substantial institutional diversity. Miranda (2009) noted that Division III campuses have a great variety of campus cultures and academic profiles, while Bass et al. (2014) outlined four different types of Division III institutions: (a) academically elite, (b) large public universities, (c) mission-driven privates, and (d) liberal arts colleges and universities. Emerson and colleagues (2009) perhaps summarized this institutional diversity best:

Common values and characteristics within Division III should not overshadow its diversity. Some of its colleges are nationally ranked and among the most highly selective in the country, whereas others admit nearly all of their qualified applicants. Most of these institutions are coeducational, but a handful have a long tradition of being single-sex colleges. Some have strong religious affiliations, whereas for others, such a connection is mostly a historical artifact. (p.67)

Sparvero and Warner (2013) reviewed the pressure placed on NCAA Division III institutions to be competitive and theorized this pressure could result in moving toward the hyper-competitive NCAA Division I model and increases in overall athletic spending (i.e., participation in the athletic arms race). Draper (1996) also noted the trend of Division III institutions becoming increasingly like Division I institutions. Fulks (2015) found that, as is the case with institutional mission and enrollment size, there is a wide range of NCAA Division III spending. However, looking at the entirety of Division III, the overall trend has been increased spending since 2004.

For 2013-2014, the largest Division III athletic department budget for an institution with football was \$16,042,800 and the median was \$3,382,100. For institutions without football during 2013-2014, the largest athletic department budget was \$9,805,800 and the median was \$1,697,500. Analysis of the median athletic department budgets for Division III institutions during the 2003-2004 academic year revealed that during a 10-year period the median athletic department budget for a Division III institution with football rose 118% (\$1,547,000 to \$3,382,100). Furthermore, the median athletic department budget for institutions without football rose 157% (\$659,700 to \$1,697,500) during that same span (Fulks, 2015). Athletic spending as a percentage of institutional spending increased from 3.7% to 5.0% across all institutions with football and from 2.3% to 3.0% at institutions without football (Fulks, 2015).

#### ***Tension and the Proposal of NCAA Division IV***

As I have illustrated thus far, there is a great deal of institutional diversity in the form of diverse missions, enrollments, and athletic spending abilities amongst the colleges and universities that comprise NCAA Division III. Additionally, I have shown how Division III underwent a period of rapid expansion from 1990 to 2008 as many former NAIA institutions joined the NCAA. This rapid expansion led to a great deal of philosophical diversity within the division that created substantial tension amongst membership (Lederman, 2008; Powers, 2008). Whereas the majority of original Division III members favored a model of college athletics with a broad base of sport sponsorship and high rates of participation throughout the student body, members joining Division III between 1990 and 2008 tended to lean towards sponsoring fewer sports with lower student body participation rates (Powers, 2008). For instance, although the average number of sports sponsored per institution in Division III in 2008 was 16.7, institutions



that joined since 1990 sponsored 13.2 sports on average (National Collegiate Athletic Association, 2009).

Recognizing this shift, Division III created a working group on these issues and conducted a membership survey based on the division's values (Lederman, 2008; Powers, 2008). As Lederman (2008) noted, the results of the membership survey illustrated philosophical tension about the ideal role of college athletics within a NCAA Division III institution. Some key findings were: (a) roughly 25% of membership felt as though Division III institutions should be required to sponsor at least 14 sports whereas 50% thought the requirement should be set at 10 or below, (b) 25% of membership felt that policies forbidding athletic redshirting (i.e., the practice of holding a player out of competition for a year to allow them to develop physically) should be overturned, and (c) over 50% believed or strongly believed colleges should be able to award financial aid to students based on athletic leadership (Lederman, 2008; Powers, 2008). The last point is perhaps the most critical because, as illustrated previously, the absence of athletic-related financial aid is the founding tenet of NCAA Division III. Lederman comments on this as well, stating, "That view, followed to its logical extreme, could be read to represent a disagreement about one of the foundational principles of Division III: that athletics should not be factored into decisions about financial aid" (para. 3). Based on the results of this survey and the fact that institutional growth had made access to championships increasingly difficult, some institutional leaders within Division III called for the creation of a Division IV that: (a) required the sponsorship of eight or more sports per gender, (b) established recruiting regulations, (c) shortened the length of seasons, (d) allowed for fewer hours of practice time, and (e) gave college presidents more control over athletics (Powers, 2008).

Ultimately, the proposal of Division IV was met with resistance as 82% of membership favored keeping the existing division together (Lederman, 2008). According to Miranda (2009), “The overwhelming majority of DIII members decided that, while differences remain, the commonalities were more compelling, and any move toward reorganization was dropped” (p. 10). To address the topic of increasing philosophical diversity, NCAA Division III leaders prepared a series of nine white papers on the topics of presidential leadership, philosophy and identity, financial aid standards, Division II as a possible membership destination, sports sponsorship and membership requirements, preference for the current playing season standards, academic considerations, championships, and budget priorities and dues structure. Of these nine topics, three were identified as high priority by Division III membership: presidential leadership, philosophy and identity, and financial aid standards (Miranda, 2009).

### **NCAA Division III Empirical Research**

In the previous section I illustrated that the common, idealistic positioning of NCAA Division III athletics as the last bastion of the amateur ideal is an oversimplification by tracing the historical roots of the division and providing an analysis of its current membership. Historical examination reveals that the division was founded primarily in reaction to factors such as lack of championship access for smaller institutions and the threat of the NAIA, rather than a desire to necessarily ensure a transformative, educational collegiate athletic experience. Examining membership reveals the rapid growth of Division III, primarily between 1990 and 2008, and the increase in institutional diversity—in the form of mission, enrollment size, and athletic spending—associated with this growth. As a result of this growth, key aspects of the idealized NCAA Division III philosophy, such as the absence of athletic-related financial aid, were no longer supported by the majority of the membership. Next, I synthesize extant literature focused

on NCAA Division III athletes, administrators, and institutions, providing an overview of scholarship focused on athlete academic outcomes, athlete campus experiences, athletic identity, and other research areas. From this synthesis, I identify gaps in the literature and discuss the implications for this research.

Reviewing the issues addressed by the previously mentioned Division III white papers, Miranda (2009) argued that academic considerations should have been amongst the topics prioritized by divisional leadership. Although “colleges and universities in Division III place highest priority on the overall quality of the educational experience and on the successful completion of all students’ academic programs” (“Division III philosophy statement,” 2016, para. 1), Miranda noted that without requirements to report athlete and non-athlete academic data, as is the case in NCAA Division I and Division II, Division III leaders have no rigorous method of evaluating policies along one of the division’s core tenets. According to Miranda:

We know very little about the academic performance of Division III student-athletes. We have anecdotal evidence that they do well, as reported by individual institutions. We have now two [more expansive internal] reports...that raise some concerns, suggesting that some groups of our student-athletes, at some institutions, might not be doing quite as well as we would hope. (p. 12)

Beyond providing the ability to evaluate policy, Miranda asserted that collecting academic data would provide the opportunity for scholars to engage in research on NCAA Division III, an area that is significantly lacking. Miranda was not the first to note this lack of inquiry, as Grites and James (1986) also commented on the lack of empirical research focused on non-scholarship athletes and specifically observed that “more research efforts should be conducted to assess the value and quality of athletic participation at the Division III level” (p. 25). Other scholars (e.g.,

Bandre, 2011; Emerson et al., 2009; Fink et al., 2003; Katz et al., 2015; Williams et al., 2010; Willner, 2019) have also noted the relative dearth of scholarship focused on NCAA Division III compared to Division I and commented on the need for further research focused on NCAA Division III due to the uniqueness of the division. Synthesizing extant literature focused on NCAA Division III, I will now identify key themes, provide an overview of gaps, and discuss implications for this research.

### ***Athlete Academic Outcomes***

Only a few researchers have examined the academic outcomes of Division III athletes and the majority of those few have had to navigate small sample sizes and conduct research on a single-institution basis (Miranda, 2009). Acknowledging these limitations, these scholars (e.g., Barlow & Hickey, 2014; Richards & Aries, 1999; Robst & Keil, 2000; Watt & Moore, 2001) have found that Division III athletes experience academic outcomes equal to or exceeding their non-athlete peers. Richards and Aries (1999) found that on one Division III campus athletic participation did not seem to impede academic success, as athletes reported no difference in grade point averages (GPAs) compared to non-athletes, despite having lower SAT scores upon matriculation. Aries et al. (2004) found that at a highly selective liberal arts college that, although athletes had lower entering academic credentials, when race, gender, and SAT scores were controlled for, athletes did not have significantly different GPAs than their non-athlete peers. Building on this research, Barlow and Hickey (2014) found that at one small, private liberal arts Division III institution athletes had entering academic credentials similar to non-athletes, obtained GPAs that were not significantly different than non-athletes, and that athlete GPAs did not differ significantly based on whether or not they were in-season. Examining athlete academic outcomes at Binghamton University (which has since reclassified as a member

of NCAA Division I), Robst and Keil (2000) found that athletes had higher graduation rates than the general student body. Additionally, athletes who began their academic career at the university had higher GPAs than non-athletes and athletes who arrived as transfer students had GPAs equivalent to non-athletes. Watt and Moore (2001) did not examine outcomes for minority athletes, but concluded that white athletes graduated at rates higher than non-athletes.

Interestingly, researchers that have examined athlete academic outcomes across a group of NCAA Division III campuses have not arrived at conclusions that are in complete alignment with the previously mentioned inquiries. Most notably, Bowen and Levin (2003) examined athlete academic experiences across several Division III institutions, drawing a sample from academically elite institutions consisting of athletes from New England Small College Athletic Conference (NESCAC) institutions (e.g., Colby College, Bates College, Bowdoin College), University Athletic Association (UAA) universities (e.g., Carnegie Mellon University, Emory University, University of Chicago), elite women's colleges (e.g., Bryn Mawr College, Smith College, Wellesley College), and other selective liberal arts colleges (e.g., Carleton College, Oberlin College, Swarthmore College) and found that there was a gap between the academic performance of athletes and non-athletes. Bowen and Levin concluded that athletes at these institutions tended to cluster into social science and business academic programs, with recruited athletes earning lower grades than their non-recruited athlete and non-athlete peers and academically underperforming based on their SAT scores and demographic characteristics. Following up on these findings, Emerson et al. (2009) compared the academic performance of recruited athletes, non-recruited athletes, and non-athletes at highly selective, moderately selective, and less selective liberal arts colleges, concluding that, at highly selective Division III institutions, male and female recruited and non-recruited athletes obtained lower GPAs than their

non-athlete peers after controlling for demographic characteristics such as SAT scores, race, gender, and high school attended. Additionally, they found that the difference between the predicted GPA and observed GPA of recruited and non-recruited athletes generally decreased as the level of selectivity decreased, with only male recruited athletes differing noticeably from their non-athlete peers at the less selective liberal arts colleges. Lott and Turner (2018) examined changes in emotional intelligence, rather than academic outcomes such as GPA, for athletes and students at five NCAA Division III liberal arts institutions and found that there was no evidence to support that participation in a single season of collegiate sport developed interpersonal, intrapersonal, and leadership capabilities significantly differently from the general collegiate experience.

One potential cause of athlete academic underperformance at NCAA Division III institutions that researchers have examined is stereotype threat, defined by Dee (2009) as “the perceived risk of confirming, through one’s behavior or outcomes, negative stereotypes that are held about one’s social identity” (p. 74). Dee (2014) examined at a Division III institution whether or not stereotype threat may contribute to athlete academic underperformance at highly selective colleges, finding evidence of stereotype threat among college athletes in a laboratory setting. Building off of this finding, Riciputi and Erdal (2017) found that when both male and female athletes were primed with their athletic identity prior to taking a difficult math test they attempted fewer problems and received lower scores on average than their athlete peers who were not primed with their athletic identity prior to taking the test. Given Emerson and colleagues’ (2009) findings indicating that athlete underperformance relative to their non-athlete peers decreased as the level of institutional academic selectivity decreased, the impact of

stereotype threat on athlete academic outcomes is potentially amplified at selective college and universities within NCAA Division III.

### ***Campus Experiences***

Researchers examining Division III athletics have generally found athletes perceive positive college experiences, are involved on campus beyond athletics, and feel supported by peers (e.g., Schroeder, 2000; Umbach et al., 2006; Williams et al., 2010). Umbach et al. (2006) surveyed athletes and non-athletes across all three divisions and found that athletes felt they received more academic and social support than their non-athlete peers and Division III athletes reported higher levels of perceived support than Division I and Division II athletes. Paule-Koba and Farr (2013) compared the satisfaction of college athletes competing in non-revenue sports at Division I and Division III levels and concluded Division III athletes reported statistically significant higher ratings of their athletic experience, academic experience, and college experience as a whole. Utilizing student involvement theory, Schroeder (2000) conducted a qualitative investigation and illustrated that male and female basketball players on one campus were highly involved, committed to their athletic and academic goals, and athletic participation had a positive influence on their involvement. In slight disagreement with some of the literature presented previously, Richard and Aries (1999) concluded that there was no significant difference between athletes and non-athletes in perceived satisfaction with friendships, campus and extracurricular involvement, and college choice at one academically elite Division III institution. They also found that athletes reported more difficulty with professors than non-athletes. Williams et al. (2010) reexamined this outcome and found, similar to research conducted in other divisions, athletes had positive experiences with faculty overall, though male athletes were more likely to have had negative interactions with faculty than female athletes.

Examining NCAA Division III athlete experiences with racial diversity on campus, Fried (2007) noted that, in stark contrast to NCAA Division I institutions where the athlete population is more racially diverse than the overall student body, NCAA Division III athletic programs were less racially diverse than the student population as a whole. Presently, there is a lack of research focused on the experiences of minoritized athletes at predominantly white NCAA Division III institutions competing in predominantly white sporting environments (Lapchick, 2020). Woods and colleagues (2018), however, noted that Division III institutions provided support systems that focused on helping Black, male athletes be more engaged in educational activities.

Other researchers have examined the social lives and alcohol consumption of NCAA Division III athletes (e.g., Aries et al., 2004; Bracken, 2012; Fetherman & Bachman, 2016). Aries et al. (2004) found athletes at four highly selective liberal arts colleges belonging to NCAA Division III were more likely to be extroverted than their non-athlete peers, reported higher levels of alcohol consumption on weekends, and were likely to be involved with non-athletic groups on campus. Brenner et al. (2009) surveyed athletes across all three NCAA divisions, finding that Division III athletes had higher levels of campus involvement than Division I and II athletes. Division III athletes were more likely to drink, but less likely to engage in high-risk alcohol consumption (Brenner et al., 2009). Similarly, Bracken (2012) found that a slightly higher percentage of Division III athletes (85.3%) consumed alcohol than Division I (81.7%) and Division II (81.5%) athletes and 65.1% of Division III athletes reported binge drinking. Fetherman and Bachman (2016) found that factors across many social ecological levels were predictive of athlete drinking habits and Fetherman and Grossman (2018) concluded that Division III athletes reported consuming alcohol for acceptance, camaraderie, safety and protection, and to provide a gateway to college social life.



### *Athletic Identity*

Scholars investigating the issue of whether or not individuals participating in NCAA Division III have a stronger or weaker athletic identity than their peers participating in other NCAA divisions have produced largely consistent results (Griffith & Johnson, 2002; Huml, 2018; Mignano, et al., 2006; Potuto & O’Hanlon, 2007; Sturm et al., 2011). Although, while examining track teams on a Division I and Division III campus, Griffith and Johnson (2002) found higher athletic identity levels among members of the Division III track team, they theorized this surprising result was due to the team’s historic success. The findings of subsequent investigations support Griffith and Johnson’s theorization, as researchers have not found Division III athletes to have higher athletic identity levels than their Division I peers.

Potuto and Hanlon (2007) found that while 60% of athletes across all divisions identified themselves more as athletes than students, this relationship was weaker within NCAA Division III. Rankin et al. (2011) found that Division III athletes exhibited a significantly lower level of athletic identity than those in other divisions, concluding “without consideration given to climate, Division III student-athletes tended to have a less salient athletic identity than their Division I and Division II peers” (pp. 9-10). Huml (2018) assessed that Division III athletes had lower athletic identity scores than Division I and II athletes and Pauline (2010, 2012) concluded that high school recruits that deliberately chose to participate at the NCAA Division III level considered academic concerns more than those who opted to participate in college athletics as Division I or Division II athletes. Sturm et al. (2011), however, examined how athletes at Division I and Division III institutions differed on perceived identity across a variety of demographics (e.g., class year, athletic division, gender) and found that gender was the only statistically significant variable, as women across both divisions reported higher levels of student

identity and lower levels of athlete identity compared to men. Mignano et al. (2006) examined female athletic identity and found that athletes participating in team sports at NCAA Division III women's colleges identified more strongly with an athlete role than those at colleges that sponsored men's and women's teams. In contrast to other scholars who have concluded that student identity or academic identity decreased as athletic identity increased, Love and Rufer (2021) found that, for a sample of over 300 Division III athletes across 11 institutions, academic identity increased as athletic identity increased and therefore these constructs were not necessarily in conflict.

### ***Other Research***

Researchers examining issues related to NCAA Division III athletics outside of academic outcomes, campus experiences, and athletic identity have investigated issues related to athletic administrator values (Burton & Peachey, 2009; Cooper & Weight, 2012), the relationship between athletic spending and athletic success (Katz et al., 2015; Sparvero & Warner, 2013), and the role Division III athletics play on campus and within communities (Beaver, 2014; Feezell, 2009; Katz & Clopton, 2014; Segura & Willner, 2020). Burton and Peachey (2009) found that Division III athletic directors favored transformational, as opposed to transactional, leadership tactics and noted this result aligned with Division III philosophical goals. They theorized that, within such an environment, athletic directors identifying as women were more likely to be accepted by peers at the Division III level than at the Division I and Division II levels. Similarly, Cooper and Weight (2012) examined the values of Division III athletic directors and found administrators most heavily prioritized concepts such as “the student-athlete experience” and “academic excellence” that aligned with the Division III philosophy statement.

Several researchers have examined the finances of NCAA Division III athletics, studying both the impact of institutional spending on athletic success and the ability of NCAA Division III athletics to help meet institutional enrollment targets. Sparvero and Warner (2013) examined athletic spending and athletic success (i.e., national championships and NCAA tournament appearances) at the NCAA Division I and Division III levels and noted that, although the increasing trend of cost escalation appears to have less of an impact at the Division III level, operating budget was the strongest overall predictor of athletic department success. Katz et al. (2015) conducted similar research examining only NCAA Division III institutions and found that athletic budget was a strong predictor of athletic success and historically few institutions that were not either academically elite or large public universities within Division III had experienced sustained athletic success. Feezell (2009) noted the increasing use of Division III athletics by institutions to advance broader institutional aspirations and engage in strategic planning (i.e., adding Division III sports teams to increase overall student enrollment) and, similarly, Beaver (2014) documented the emergence of nonselective, small, private colleges using Division III athletics programs to bolster their financial stability by increasing tuition revenue and enrollment. Segura and Willner (2020) observed the disparate impact the addition of a football team can have on an NCAA Division III campus and Katz and Clopton (2014) found that NCAA Division III athletics programs tend to not have the same level of impact and identification within their communities as NCAA Division I programs.

### **Summary**

Thus far I have reviewed empirical research focusing on NCAA Division III and found:

(a) Division III athletes, particularly those participating at academically elite, selective institutions, are unlikely to experience academic outcomes that are equal to or exceed their non-

athlete peers; (b) scholars have theorized that this academic underperformance may be due to stereotype threat; (c) Division III athletes generally perceive positive campus experiences, feel supported by peers, and are involved on campus; (d) athletes participating at the Division III level are more likely to consume alcohol than their Division I and Division II peers and a high percentage engage in binge drinking; (e) researchers examining the athletic identity of Division III athletes have largely produced results indicating that Division III athletes have lower levels of athletic identity than Division I and Division II athletes, although some disagreement in the literature exists; (f) spending is a strong predictor of NCAA Division III athletic success; and (g) some institutions are using Division III athletics programs to drive enrollment and fulfill other strategic positioning and financial initiatives. Taken together, these results are not fully supportive of the popular characterization of NCAA Division III athletics put forth earlier that positions the division as an athletic space where athletes are without academic limitation, fully integrated into the campus experience, and participate purely for the love of the game and institutions are operating in absence of financial incentives (e.g., Barnds, 2015; Cooper & Weight, 2012; Lemons, 2016; Looney, 1994; Roush, 2016). I submit that there are several factors that serve to dampen the results of the extant literature and gaps that must be addressed prior to suggesting the degree to which the totality of scholarship supports or does not support the effectiveness of the Division III model of college athletics.

As Miranda (2009) asserted, research on Division III tends to be “hamstrung by small sample sizes, unrepresentative groups, and other limitations” (p. 12). Some scholars conducted studies that took place on single campuses (e.g., Richard & Aries, 1999; Williams et al., 2010), others compared members of single teams without accounting for institutional context (e.g., Griffith & Johnson, 2002; Mignano et al., 2006), and one examined academic outcomes at an

institution that is no longer a member of NCAA Division III (Robst & Keil, 2000). As I have previously outlined, NCAA Division III is a rapidly growing division with expanding institutional and philosophical diversity. Within such a context, it is difficult to generalize the results of such small, localized populations to the larger division and broader examinations of these issues are warranted.

While some multi-campus research examining institutional athletic spending and enrollment management (e.g., Beaver, 2014; Katz et al., 2015) has included nonselective, public, and mission-driven NCAA Division III institutions, the vast majority of multi-campus scholarship focused on NCAA Division III athletes (i.e., athlete academic outcomes, campus experiences, and athletic identity) has centered athletes participating at highly selective, academically elite liberal arts colleges (e.g., Aries et al., 2004; Bowen & Levin, 2003; Lott & Turner, 2018). Additionally, researchers conducting quantitative investigations of NCAA Division III have almost exclusively utilized a postpositivist approach (e.g., Richard & Aries, 1999; Robst & Keil, 2000). Scholars using quantitative methods to examine NCAA Division III should conduct research that focuses on multiple individuals/teams on multiple campuses, bringing the element of institutional diversity into analysis (Bass et al., 2014). Similarly, another important limitation of the extant research is that many of the studies examining athletes within a NCAA Division III context draw direct comparisons to NCAA Division I (e.g., Griffith & Johnson, 2002; Potuto & O'Hanlon, 2007; Sturm et al., 2011; Umbach et al., 2006). While comparisons are understandable given the plethora of available research focused on NCAA Division I, these comparisons might obscure understanding given the hyper-commercialized, hyper-competitive nature of the division (Miranda, 2009). Finally, there is an opportunity for researchers to expand beyond postpositivism and utilize a critical quantitative research paradigm.

Such an approach would serve to influence their motives for engaging in research and the research questions they ask, inform their data analysis and interpretation of the results, and allow them to advocate for social justice and attack systems that serve to replicate oppression (Stage, 2007; Tabron, 2019). This investigation sought to begin to correct these gaps and imbalances in extant quantitative scholarship focused on NCAA Division III by examining athlete and non-athlete experiences with hazing from a critical quantitative approach across five campuses spanning the range of NCAA Division III membership: two academically elite institutions, one liberal arts college, one large public university, and one mission-driven private university.

Beyond direct implications for this critical quantitative investigation, this review of literature focused on NCAA Division III athletics illuminates a narrowness in scope and methodology amongst the current body of literature that should be addressed by future scholars. Certainly, there are issues with athletes beyond academic outcomes, campus experiences, and athletic identity worthy of scholarly inquiry. Important stakeholders in NCAA Division III such as non-athletes, coaches, administrators, faculty members, and college and university presidents are all either absent or nearly absent from existing scholarship. Of all the those who have examined NCAA Division III athletics to date, Schroeder (2000) and Fetherman and Grossman (2018) are the only researchers who have taken a qualitative approach to understanding, with others, as stated previously, utilizing a quantitative, postpositivist approach. Therefore, while one might know whether or not Division III athletes experience certain outcomes (e.g., positive interactions with faculty, increased campus involvement, higher GPAs than non-athlete peers), it is not clear how or why such outcomes occur (McMillian & Schumacher, 2010). Future research examining NCAA Division III athletics should strive for greater epistemological diversity (Miranda, 2009).

### **College Athlete Hazing Literature Review**

Crow and MacIntosh (2009) claim that as scholarly inquiry on hazing in college athletics has increased, disagreement about how to define hazing within the context of sport has surfaced. While some minor disagreement does exist amongst scholars, examining the totality of literature related to college athlete hazing reveals that the majority of researchers in this area (e.g., Allan & Madden, 2008, 2012; Chin & Johnson, 2011; Hamilton et al., 2013; Waldron & Kowalski, 2009) have adapted a version of Hoover's (1999) conceptualization which defined hazing as "any activity expected of someone joining a group that humiliates, degrades, abuses or endangers, regardless of the person's willingness to participate" (p. 8). In this section, I examine empirical research focused on college athlete hazing, summarizing the findings of quantitative and qualitative studies that have examined hazing in a college athletics context. Researchers have examined the nature and extent of college athlete hazing experiences; gender, sexuality, and hazing; athlete perceptions of hazing; and barriers to hazing prevention. I synthesize this extant literature and discuss the implications for this research.

#### **The Nature and Extent of College Athlete Hazing**

Scholars conducting survey-based inquiries into college athlete hazing in the United States and Canada have produced largely congruent results. Hoover (1999) surveyed athletes across 224 participating NCAA institutions and concluded that 79% of collegiate athletes described experiencing behaviors that met the aforementioned definition of hazing, meaning that, at the time, more than 250,000 NCAA athletes were hazed while participating in intercollegiate athletics. Hoover categorized hazing behaviors as questionable (e.g., being yelled, cursed, or sworn at; being forced to wear embarrassing clothing); alcohol related (e.g., consuming alcohol on recruitment visits, participating in a drinking contest); and unacceptable (e.g., making prank

calls or harassing others, destroying or stealing property). Several researchers (e.g., Hamilton et al., 2013; McGlone, 2010; Waldron, 2015) have adapted this categorization of hazing behaviors in subsequent inquiries. Hoover concluded that 65% percent of athletes participated in questionable hazing activities, 51% participated in alcohol-related hazing, and 21% participated in unacceptable hazing activities. Additionally, Hoover documented that a high percentage of athletes who experienced questionable hazing also experienced at least one unacceptable hazing behavior. The most common hazing behaviors experienced by varsity athletes were consuming alcohol on recruitment visits (42%); participating in a drinking contest (35%); being yelled, cursed, or sworn at (31%); being forced to wear embarrassing clothing (29%); and tattooing, piercing, head shaving, or branding (28%). Furthermore, chi-square analyses revealed the athletes most at risk for being hazed were men; non-Greek members; and swimmers, soccer players, and lacrosse players. Residential and rural campuses with fraternities and institutions located on the East Coast or in the South were more likely to have athletes experiencing hazing. The percentage of athletes experiencing hazing across NCAA Division I, Division II, and Division III was consistent.

Allan and Madden (2008) examined responses from over 11,000 students on 53 campuses throughout the United States, determining that 55% of college students involved in groups, teams, and organizations had experienced activities meeting the definition of hazing. Varsity athletes (n=640) were the group most likely to experience hazing in the study, with 74% of varsity athlete respondents indicating they participated in at least one activity meeting the definition of hazing. Athletes participating in lacrosse, swimming, and soccer experienced the highest percentages of hazing (Kerschner & Allan, 2016). The most common hazing behaviors experienced by varsity athletes were participation in a drinking game (47%); singing or chanting



in public at an unrelated event (27%); drinking large amounts of a non-alcoholic beverage (24%); drinking large amounts of alcohol (23%); and being screamed, yelled, or cursed at by other athletes (21%). Examining hazing at seven United States research universities comprising the initial cohort of the Hazing Prevention Consortium (HPC), Allan et al. (2019) found that varsity athletes (42.7%) were more likely to experience hazing than their peers belonging to Greek letter organizations (GLOs) (38.3%), club sport teams (29.5%), and student leadership organizations (27.4%). The percentage of students experiencing hazing at the institutions comprising the initial cohort of the HPC may be lower than previously documented in Hoover (1999) and Allan and Madden due to the uniqueness of the group of institutions from which the sample was drawn, with institutions making a multiyear commitment to hazing prevention (Allan et al., 2019). Male varsity athletes (46.8%) were more likely to experience hazing than female varsity athletes (40.3%) and 86.1% of athletes reported that they did not need to be hazed to feel like they belonged to their team. The most common hazing behaviors experienced by varsity athletes were participation in a drinking game (18.8%), associating with specific people and not others (15.7%), attending a roast where others are humiliated (14.6%), acting as a personal servant to other members (9.4%), and drinking large amounts of alcohol (9.0%) (Kerschner & Allan, 2016).

### ***Hazing in Canadian University Athletics***

Building from the work of Hoover (1999) and Allan and Madden (2008), Hamilton et al. (2013) and Johnson et al. (2018) sought to examine the frequency of hazing within university athletics in Canada. Hamilton and colleagues conducted a survey-based inquiry with over 300 athletes representing 27 teams at seven Canadian universities and concluded that 92% of athletes experienced at least one hazing behavior as a newcomer to a team. Borrowing from Hoover's

typology of hazing behaviors, Hamilton et al. found that 91% of athletes experienced questionable hazing behaviors, 72% experienced alcohol-related hazing, and 42% experienced unacceptable hazing. While the percentage of athletes experiencing hazing appears to be higher than the incidence rates that Hoover and Allan and Madden observed, this is due to the fact that Hamilton and colleagues asked participants about the entirety of their athletic careers, aggregating experiences prior to arriving at college into this statistic. Furthermore, Hamilton et al. also utilized a purposeful sampling strategy in order to have a proportionate number of athletes representing collision (e.g., football, hockey), contact (e.g., basketball, soccer), and non-contact sports (e.g., tennis, track and field), concluding that athletes participating in collision sports were more likely than their peers participating in contact and non-contact sports to have experienced hazing. After accounting for these methods, overall incidence rates are in closer alignment with what previous researchers examining the nature and extent of hazing in collegiate sport have documented (Hamilton et al., 2013).

Johnson and colleagues (2018) further examined hazing in Canadian university athletics, surveying over 400 varsity and club sport athletes across several Canadian institutions of higher education and concluding that 58% of Canadian university sport athletes experienced at least one hazing behavior. The most frequent hazing behaviors reported by athletes were wearing embarrassing clothing (30.2%); singing or chanting in public (28.1%); attending a skit night or roast (18.2%); drinking or eating vile concoctions (15.9%); being yelled, screamed, or cursed at by other athletes (15.7%); associating with specific people and not others (11.1%); and acting as a personal servant (10.4%). As Johnson et al. acknowledge, the lower percentage of athletes experiencing hazing and the differing composition of the most frequently experienced hazing behaviors in this study may be due to an error in the format of the online survey, which neglected

to assess 12 additional hazing behaviors identified in previous inquiries (e.g., Allan & Madden, 2008; Hamilton et al., 2013; Hoover, 1999). According to the authors the “notably lower prevalence of hazing found in the current study may be due to the fact that athletes were not asked about their involvement in any alcohol-related, sexual, and abusive hazing behaviors” (Johnson et al., 2018, p. 10).

### ***Further Quantitative Research***

Moving beyond a descriptive statistical approach, recent scholars examining hazing in a college athletics context have investigated factors predictive of athlete hazing experiences. Waldron (2015) examined both descriptive statistics and factors predictive of hazing experiences for college and high school athletes, finding that 57.8% of college athletes had experienced a mild and/or severe hazing act. The most commonly experienced mild hazing acts were association with specific people and not others (19.7%); being yelled, cursed, or sworn at (17.0%); and being required to remain silent (8.3%), while the most commonly experienced severe hazing behaviors were being deprived of sleep (23.5%), participating in a drinking game (18.1%), and acting as a personal servant to others (12.1%). Utilizing inferential statistics, Waldron concluded that team norms for experiencing hazing were the strongest predictor of participating in mild or severe hazing and that individual athletic identity did not predict engagement in hazing behaviors. Additionally, being a college athlete and experiencing positive initiation rituals (e.g., doing community service, organizing a fundraising event) were strongly correlated with experiencing hazing.

Building upon Hamilton et al. (2013), Hamilton and colleagues (2016) examined factors predictive of athletes becoming hazing perpetrators utilizing social cognitive theory (SCT). Related to the social ecological model outlined previously (Dahlburg & Krug, 2002; McElroy et

al., 1988; Stokols, 1996) SCT outlines that human behavior is influenced by personal factors and environmental factors (Bandura, 1986). Hamilton and colleagues found that the majority (71%) of participants in the study had hazed first-year athletes and that having personally experienced hazing was the most salient predictor of whether or not an individual became a hazing perpetrator. As the authors noted:

The most important finding in the current investigation was that the degree of hazing endured as a rookie accounted for nearly 30% of the variance in hazing perpetration. In the current study, 76% of participants who were subjected to at least one hazing activity as a rookie went on to perpetrate at least one hazing activity as a veteran. Of the 26 who had not experienced hazing as a rookie, only three perpetrated a hazing activity as a veteran. (pp. 268-269)

Moral disengagement, the degree to which individuals are willing to disengage from moral self-regulation, was also found to be a significant individual predictor of the number of hazing activities perpetrated. While individual attitudes about difficult initiations were not found to be predictive of hazing perpetration, attitudes about the purpose of initiation did predict variability in hazing perpetration. Environmental factors such as team size and the level of contact present in the sport did not predict athlete hazing perpetration (Hamilton et al., 2016).

### **Gender, Sexuality, and Hazing**

Thus far I have illustrated that scholars examining the nature and extent of college athlete hazing in the United States and Canada have produced largely compatible results in regard to the percentage of athletes experiencing hazing and the most frequently experienced hazing behaviors. Utilizing survey-based research, Hoover (1999), Allan and Madden (2008), Allan et al. (2019), Hamilton et al. (2013), Waldron (2015), Hamilton et al. (2016), and Johnson et al.

(2018) concluded: (a) approximately 40% to 80% of college athletes are experiencing hazing; (b) college athletes report participating in abusive, alcohol-related, and high-risk hazing behaviors (e.g., drinking large amounts of alcohol, participating in drinking games, acting as a servant to other members, experiencing verbal abuse from other members); (c) hazing occurs across a range of athletic teams, sport types, and athletic programs; and (d) factors such as team norms toward hazing and previously experiencing hazing may be predictive of athlete experiences. Notably, hazing and gender is one area where scholars utilizing survey-based methods have not produced completely harmonious results. Hoover (1999), Allan and Madden (2008), and Kerschner and Allan (2016) found that male college athletes were more likely to experience hazing than female college athletes. Examining college athlete hazing experiences in the United Kingdom, Lafferty and colleagues (2017) found that men were more aware and more likely to engage in inappropriate initiation activities than women, with the authors commenting, “Although male and female teams in the UK tend to be part of the same sport society, they hold differing views about unacceptable initiation activities, with female sport players engaging in less inappropriate hazing rituals” (p. 444). While scholars examining hazing in Canadian university athletics are in agreement with the overall prevalence of hazing in collegiate athletics observed in the United States, Hamilton et al. (2013) found that male college athletes and female college athletes were equally likely to experience hazing, regardless if it was questionable, alcohol-related, or unacceptable; Hamilton et al. (2016) found that gender was not predictive of hazing perpetration; and Johnson et al. found that a higher percentage of female athletes (56.6%) reported experiencing hazing behaviors than male athletes (43.4%). Examining hazing in the United States, Waldron (2015) found that gender was not predictive of athlete hazing experiences. Such

conclusions are incongruent with the findings of both Hoover (1999) and Allan and Madden (2008).

As noted previously, Hamilton et al. (2013) concluded differences can be drawn along collision and non-collision sport lines, with athletes participating in collision sports (e.g., football, hockey, lacrosse) more likely to experience hazing than their peers participating in contact and non-contact sports. Hamilton and colleagues hypothesized that traditional attitudes related to gender, sexuality, and sport might be the cause for such findings, with the intentional overrepresentation of female athletes in the traditionally male-dominated collision sport space of hockey present in the study and contributing to the finding of male college athletes and female college athletes being equally likely to experience hazing. Waldron (2015), however, examined factors predictive of mild and severe hazing and, while finding that gender was not a significant predictor of hazing, also found that being a non-contact sport athlete increased the risk of hazing. According to Waldon, “these findings are contrary to the common belief that athletes in contact sports and male athletes, who tend to exemplify traditional characteristics of masculinity, haze their new members in a more aggressive and abusive fashion than athletes in other non-contact sports or female athletes” (p. 1098). Such findings warrant a review of the work of scholars using qualitative methods (e.g., Anderson et al., 2012; Johnson & Holman, 2009; Kirby & Wintrup, 2002; Waldron et al., 2011) who have examined gender, sexuality, and hazing in the context of college athletics.

### ***Qualitative Examinations***

Sport sociologists such as Crosset (2007), Messner (1988), and Hawkins (2010) position college athletics as terrain inextricably linked with heterosexual, white male privilege. According to Messner (2002) sports exemplifying traditional masculine characteristics (e.g., aggressiveness,

toughness, strength) are the “institutional center of sport,” holding the greatest power in society and having the most visibility. Related to this power is the belief that male athletes participating in these centered sports (e.g., football, men’s basketball, baseball) engage in more severe hazing than female athletes and male athletes participating in less centered and powerful sporting cultures (Crow & MacIntosh, 2009; Waldron & Kowalski, 2009). Many researchers who have examined hazing have focused on men’s experiences, drawing connections between hazing and the social construction of masculinity and positioning intercollegiate sport as fertile ground for illustrating these connections and privileges (e.g., Allan, 2003; Allan & DeAngelis, 2004; Anderson et al., 2012). Allan (2003) stated:

Social anxieties around masculinity are central to the continuation of hazing practices.

The more that boys/men are fearful of being labeled as weak, the more likely they are to participate in hazing practices that are often dangerous and even life-threatening. (p. 284)

Similarly, Johnson and Holman (2009) stated “Traditional male sport subcultures tend to place a considerable amount of pressure on participants to conform to masculinist values and beliefs. Hazing is one of the processes through which this is achieved” (p. 6). Bryshun and Young (1999) documented hazing across several types of sports in Canadian universities, concluding that athlete hazing experiences were linked to both gender socialization and sport socialization. Though it appeared that male athletes and female athletes supported masculinist values and beliefs, upon closer investigation there were differences and female athletes tended to not be as willing to rigidly adhere to aggressive and dominating hazing behaviors as their male athlete peers. Though power, status, and identity played into both male athlete and female athlete hazing behaviors, female athletes tended to be more restrained. Other scholars have noted that male athletes tend to engage in hazing behaviors that highlight strength, toughness, and dominance;

sexually objectify women; and lessen the status of their teammates through behaviors challenging their heterosexuality or gender identity (Allan, 2004; Anderson et al., 2012; Johnson & Holman, 2009; Kirby & Wintrup, 2002; Waldron et al., 2011).

Anderson et al. (2012) and Johnson and Holman (2009), however, asserted that perhaps as gender norms become more flexible and attitudes regarding homosexuality become more accepting in the context of college athletics, these shifts will alter the hazing behaviors that both male and female college athletes participate in and experience. For instance, Anderson and colleagues found in a seven-year ethnographic study that as homophobic attitudes on male sports teams decreased, homoerotic hazing behaviors were minimized and alcohol-related hazing was amplified. Examining the harmful use of alcohol in hazing activities, Chin and colleagues (2020) found that athletes participated in alcohol-related hazing to prove their toughness and gain membership into a group. There were no significant differences in male athlete and female athlete responses pertaining to the role of alcohol in hazing behaviors. Johnson and Holman (2009) argued that there is evidence to suggest that women are engaging in more inappropriate activities, mirroring those of male athletes. Indeed, researchers have observed that as female sport is becoming more aligned with the male sporting world, some female college athletes are adopting hazing behaviors traditionally associated with male sports teams in order to gain credibility and demonstrate strength (Allan, 2003; Johnson & Holman, 2009; Lenskyj, 2004; Young & White, 1995). Taken together, these scholars using qualitative methods have observed a college athletic environment where men have traditionally participated in hyper-masculine hazing, there is the potential for gender norms and attitudes toward homosexuality to become less rigid, and female college athlete hazing behaviors are increasingly resembling male college athlete hazing behaviors. Within this environment, the hypothesis posited by Hamilton et al.



(2013), that evolving attitudes related to gender, sexuality, and sport might partially explain their findings that male athletes and female athletes are equally likely to experience hazing, has verisimilitude.

### **Athlete Perceptions of Hazing and Barriers to Prevention**

Gender norms, attitudes toward sexual orientation, and the role of sport in society provide part of the rationale for college athlete hazing and explain the hazing behaviors athletes experience. Researchers examining hazing in the context of college athletics have also concluded that hazing persists due to: (a) an incorrect belief that hazing is an effective method of developing team cohesion, (b) athlete inability to recognize hazing and unwillingness to report hazing, and (c) coaches and athletic administrators acting as barriers to hazing prevention. Looking at postsecondary education, Campo et al. (2005) and Keating et al. (2005) note that one reason hazing persists is because students commonly believe that hazing creates group cohesion. Cimino (2011, 2013) theorized about this belief from an evolutionary psychology perspective, concluding that group solidarity and the cultivation of committed group members are adaptive, perceived outcomes of hazing. Other researchers (e.g., Kirby & Wintrup, 2002; Van Raalte et al., 2007; Waldron & Kowalski, 2009) have noted students believe hazing establishes and maintains group identity and hierarchy.

College athletes share similar perceptions as the broader student body, with Keating et al. (2005), Kirby and Wintrup (2002), Waldron and Kowalski (2009), and Waldron et al. (2011) concluding that athletes perceived hazing as an effective way to develop shared team values and friendships. Researchers examining the effects of hazing on team cohesion and teammate relationships, however, have not produced results supportive of athlete perceptions. Van Raalte et al. (2007) found that athletes who experienced hazing behaviors were more likely to report

lower levels of team cohesion and Lafferty et al. (2017) concluded that there was no significant relationship found between hazing and team cohesion. Johnson (2011), Smith and Stellino (2007), and Waldron and Kowalski found that hazing undermined and stunted relationships between teammates and engaging in hazing behaviors created cognitive dissonance for all participants.

### ***Barriers to Prevention***

One significant barrier to hazing prevention throughout the entire postsecondary context is that there is a documented gap between students' experiences of hazing and their willingness and ability to identify they were hazed when asked directly (Allan & Madden, 2008; Campo et al., 2005; Hoover, 1999). Campo et al. (2005) asserted there is "a clear discrepancy between self-identification as participating in hazing and participating in hazing as defined by university policy" (p. 146). Allan and Madden (2008) found that although 55% of students experienced hazing, only 9% considered themselves to have been hazed. Often, students instead classified their hazing experiences as pranks, initiations, or traditions and felt as though they could not have been hazed because they chose to participate (Allan & Madden, 2008).

A similar gap exists between the percentage of college athletes who report participating in activities meeting the definition of hazing and the percentage that identify they were hazed when asked directly, indicating athlete inability to recognize certain behaviors as hazing (Allan & Madden, 2008; Hoover, 1999; Kerschner & Allan, 2016). Although Allan and Madden (2008) and Hoover (1999) found that nearly 80% of college athletes experienced hazing, only 7% and 12% considered their experiences to have been hazing. Even amongst the limited percentage of college athletes who identify as being hazed when asked directly, substantial barriers to reporting exist. Scholars have found that athletes are generally unwilling to speak out about hazing

experiences because they do not wish to get their teams in trouble, do not wish to be ostracized from their team, and fear retribution from teammates (Allan & Madden, 2008; Waldron & Kowalski, 2009).

Another barrier associated with preventing hazing at colleges and universities is that many students come to campus with prior hazing experiences that serve to normalize hazing (Allan & Madden, 2008; Hoover & Pollard, 2000). Hoover and Pollard (2000) and Allan and Madden (2008) found that between 47% and 48% of high school students had experienced hazing. Similar to the postsecondary context, hazing behaviors occurred across a broad range of groups and teams (Allan & Madden, 2008). Gershel et al. (2003) found that middle school athletes had participated in activities meeting the definition of hazing, suggesting that for some, the normalization of hazing might begin even prior to high school.

Noting barriers to athletes confronting hazing, Crow and colleagues (2004) assert that coaches and administrators must take an active role in hazing prevention efforts. Researchers examining this possibility, however, have consistently identified numerous ways in which coaches and administrators act as barriers to hazing prevention that must first be addressed. Coaches might create an environment where hazing persists by: (a) not believing hazing is an issue within their teams or only being concerned with major, dangerous incidents; (b) feeling as though they cannot address hazing on their teams due to a lack of skills, lack of time, or their own socialization in an athletic environment that normalized hazing; and (c) claiming that it is the sole responsibility of athletes to deal with issues of hazing (Caperchione & Holman, 2004; Crow & MacIntosh, 2009; Holman, 2004; Johnson & Donnelly, 2004; Kowalski & Waldron, 2010). McGlone (2010) found that athletic directors tended to view hazing as a minor problem

within their own athletic departments and were uncertain of the extent of the problem throughout collegiate sport.

### **Summary**

Thus far I have illustrated that scholars examining the nature and extent of college athlete hazing have produced largely compatible results in regard to the percentage of athletes experiencing hazing and the most frequently experienced hazing behaviors, concluding: (a) approximately 40% to 80% of college athletes are experiencing hazing; (b) college athletes report participating in abusive, alcohol-related, high-risk hazing behaviors (e.g., drinking large amounts of alcohol, participating in drinking games, acting as a servant to other members, experiencing verbal abuse from other members); (c) hazing occurs across a range of athletic teams, sport types, and athletic programs; and (d) factors such as team norms toward hazing and previously experiencing hazing may be predictive of college athlete experiences. These quantitative examinations, however, have not produced consistent results around athlete hazing and gender, where scholars using qualitative methods have observed a college athletic environment where men have traditionally participated in hyper-masculine hazing, there is perhaps shifting gender norms and attitudes toward homosexuality, and female athlete hazing behaviors may be increasingly resembling male athlete hazing behaviors. While gender norms, attitudes toward sexual orientation, and the role of sport in society provide part of the rationale for college athlete hazing and explain the hazing behaviors athletes experience, researchers examining hazing in the context of college athletics have also concluded that hazing persists due to: (a) an incorrect belief that hazing is an effective method of developing team cohesion, (b) athlete inability to recognize hazing and unwillingness to report hazing, and (c) coaches and athletic administrators acting as barriers to hazing prevention.

While college athlete hazing is well represented in peer-reviewed literature compared to other high-risk areas of postsecondary education such as fraternities and sororities (Biddix et al., 2014), one notable gap is that most research examining hazing in college athletics is focused on NCAA Division I, international contexts (e.g., Hamilton et al., 2013; Johnson et al., 2018), or a cross-divisional perspective (e.g., Allan & Madden, 2012; Waldron & Kowalski, 2009; Van Raalte et al., 2007). As noted earlier, in contrast to NCAA Division I institutions where on average 4% of the overall student body participates in varsity athletics, at NCAA Division III institutions, on average, 25% of the student body are varsity athletes and this percentage may range from 2% to 55% (NCAA, 2018; “Division III 2018-2019 facts and figures,” 2018). Given this, I contend that empirical research focused on athlete hazing in the context of NCAA Division III is warranted due to: (a) the uniqueness of NCAA Division III from NCAA Division I and other contexts such as Canadian and United Kingdom university athletics where hazing has been examined; (b) the outsized impact that hazing can have on campus climate, given the high percentage of the student body at Division III institutions that may be at risk for experiencing hazing; and (c) the shifting identity, expansion, and scope of NCAA Division III, leading to changes in the membership composition of the division in the previous 20 years. By examining the nature and extent of athlete and non-athlete hazing and factors predictive of athlete hazing experiences at five diverse NCAA Division III institutions, this investigation begins to fill this gap in the literature and holds promise for influencing practice.

### CHAPTER THREE: METHODS

In the preceding literature review, I identified several gaps in the extant literature focused on NCAA Division III athletics, noting the need for research focused on the division that: (a) is not limited by small sample sizes and unrepresentative groups, (b) includes colleges and universities that are representative of the range institutional diversity that is a core characteristic of the division, rather than only including academically elite institutions, (c) examines topics beyond those already well-represented in the scholarship (i.e., athlete academic outcomes, campus experiences, and athletic identity), and (d) expands beyond a postpositivist research paradigm. Drawing from my review of the literature examining college athlete hazing, I contend that additional empirical research focused on athlete hazing in the context of NCAA Division III is warranted due to: (a) the uniqueness of NCAA Division III from NCAA Division I and other contexts such as Canadian and United Kingdom university athletics where hazing has been examined; (b) the outsized impact that hazing can have on campus climate, given the high percentage of the student body at Division III institutions that may be at risk for experiencing hazing; and (c) the shifting identity, expansion, and scope of NCAA Division III, leading to changes in the membership composition of the division in the previous 20 years. I selected the methods in this investigation to both address the identified gaps in the extant NCAA Division III scholarship and the need for further research focused on NCAA Division III hazing illustrated by my review of research focused on college athlete hazing.

In this study I followed a non-experimental, quantitative research design and examined the hazing experiences of athletes and non-athletes across five NCAA Division III institutions. The purpose of this study was to examine whether or not athletes and non-athletes at these institutions have differing experiences with hazing and explore which individual and campus

level variables have the greatest impact on and are predictive of athlete and all student hazing experiences. Specifically, the following sets of research questions framed this investigation:

1. Do varsity athletes at these NCAA Division III campuses have different hazing experiences than their non-athlete peers? What is the nature and extent of these Division III varsity athlete hazing experiences? Are there institutional differences?
2. Across levels of the social ecology, are there individual and campus level factors that predict student hazing experiences at these Division III campuses? Are there factors that predict varsity athlete hazing experiences at these institutions?
3. Building from the typology of hazing outlined by Hoover (1999) and utilizing the spectrum of hazing (Allan, 2015; Allan & Kerschner, 2020), are intimidation and harassment hazing experiences predictive of varsity athletes and all students experiencing violence hazing? Are intimidation hazing experiences predictive of varsity athletes and all students experiencing harassment hazing? What types of hazing behaviors are students and varsity athletes most likely to identify as hazing?

In this chapter, I outline the methods I utilized for analyzing these three research questions including (a) procedures, (b) instrumentation, (c) participants and site selection, (d) selection of variables, (e) data analysis, and (f) hypotheses.

### **Procedures**

Throughout the data collection process for this investigation, University of Maine Institutional Review Board (IRB) approval was maintained. Additionally, at participating institutions that did not meet the criteria for being designated as non-engaged institutions, institutional IRB approval was also obtained (Office for Human Research Protections, 2009). In some cases, this led to institutional-specific modifications to the survey instrument. The majority

of these modifications were minor (i.e., the changing of response options to match campus specifics) and care was taken to ensure the confidentiality of participants in any reported or shared findings.

Students at the five participating institutions that were selected to be a part of each institutional sample received an email invitation to participate in the modified version of the National Survey of Student Hazing (Allan & Madden, 2008), along with a unique web address to prevent multiple entries. As with other quantitative studies of hazing (Allan & Madden, 2008; Allan et al., 2019, Johnson et al., 2018), the term “hazing” was not used in the survey invitation for this investigation. Instead, the research was characterized as being focused on student experiences with joining clubs, teams, and organizations. Participants were presented with a letter of information introducing the research and informed consent was obtained when participants agreed to participate in the study. The online surveys were launched between April 2013 and May 2018 at the five participating institutions and remained open for either a two- or three-week period, depending on institutional needs. Each institution provided small incentives (e.g., a chance to win a \$50 Amazon gift card) to help facilitate participation and weekly reminder emails were sent to potential participants.

### **Instrumentation**

As noted by McMillian and Schumacher (2010), when conducting quantitative educational research, it is important for the researcher to choose an instrument that has established reliability and validity. This is particularly true for noncognitive measures (i.e., measures that focus on emotions such as attitudes, values, interests, and opinions), which may be negatively influenced by response set, the tendency for participants to answer questions in the same way, and social desirability, the tendency for participants to respond in a way that is



socially appropriate. Beyond established reliability and validity, selection of an instrument may be further justified by the presence of the instrument in the extant literature (McMillian & Schumacher, 2010).

A modified version of the National Survey of Student Hazing (Allan & Madden, 2008), amended to include questions regarding participants' attitudes and beliefs about hazing, was used to gather data that were analyzed for this investigation. After providing demographic information and selecting a primary organization, respondents were given a list of behaviors meeting Hoover's (1999) and Allan and Madden's (2008) definition of hazing and were asked if the behaviors happened to them as part of joining or participating in their varsity athletic team or their non-varsity athletic team groups, organizations, and clubs. In total, the modified survey incorporated more than 100 data points related to student experiences with behaviors meeting the definition of hazing, student experiences with hazing prevention strategies, perceptions of hazing on campus, experiences with hazing prior to college, and attitudes and beliefs about hazing. Replicating methods used in previous studies of hazing (e.g., Allan & Madden, 2008; Allan et al., 2019; Hoover, 1999), the term "hazing" was not used until after students responded to which behaviors they had experienced as members of their groups, teams, and organizations in the survey.

The criteria put forth by McMillian and Schumacher (2010) strongly support the use of the modified version of the National Survey of Student Hazing (Allan & Madden, 2008) as the research instrument I utilized in this investigation. As noted by Allan and Madden (2008), the survey underwent an extensive pilot study in order to establish and test its reliability and validity, with the instrument piloted in Spring 2005 with 1,750 college students at four colleges and universities located in the Northeast. Following the pilot study, results were analyzed and the

survey was further refined with the input of a research advisory group for use in the national study, which included responses from more than 11,000 students across 53 college campuses. Furthermore, avoiding use of the term “hazing” until after students have responded to questions about the behaviors they have experienced in order to join or maintain membership in their groups helps mitigate the social desirability effect noted by McMillian and Schumacher. Finally, the use of this instrument to assess hazing in postsecondary settings is well supported by the extant literature, with other educational researchers utilizing the instrument and producing similar results (e.g., Allan et al., 2019; Johnson et al., 2018; Silveira & Hudson, 2015). The most recent version of this survey instrument is included in the Appendix.

### **Measure Development**

Utilizing the modified version of the National Survey of Student Hazing (Allan & Madden, 2008) established previously, one noncognitive measure titled “Hazing Attitudes and Perceptions” was aggregated for this investigation from Likert rating choice items included in the survey. McMillian and Schumacher (2010) outlined the importance of establishing validity and reliability for such noncognitive measures. All participants were provided with a series of 11 Likert rating choice items with a 1 to 6 rating scale (i.e., 1-strongly agree, 2-agree, 3-agree more than disagree, 4-disagree more than agree, 5-disagree, and 6-strongly disagree). Based on a review of the extant literature, seven items were determined to assess student attitudes and perceptions about hazing and four were determined to be unrelated and were not included in the scale development process (Tabachnick & Fidell, 2013). Items considered for inclusion in the “Hazing Attitudes and Perceptions Scale” are outlined in Table 1.

**Table 1***Items Considered for Hazing Attitudes and Perceptions Scale*

Statement
It can be hazing even if someone agrees to participate
Hazing is not an effective way to create bonding
There is no good reason to haze new members of a group
Hazing is not an effective way to initiate new members
Hazing is a problem because it can cause physical harm
Hazing is a problem because it can cause emotional harm
I do not need to be hazed to feel like I belong to a group

***Scale Validity***

A factor analysis (FA) was conducted in order to determine if the scale items listed in Table 1 measured a single latent construct or multiple constructs. In this instance, I was considering whether the items outlined in Table 1 measured participants' attitudes and perceptions of hazing as a single construct or if the FA indicated multiple components necessitating an exploratory factor analysis (EFA). Factor analysis, as opposed to principal component analysis (PCA), was initially utilized as the statistical tool because the purpose was to examine latent constructs underlying the variables rather than reduce the number of variables to a more interpretive, smaller set (Kassim et al., 2013).

Tabachnick and Fidell (2013) suggested first examining the correlation matrix for the items under consideration, noting that if no correlations are found in excess of .30, it is not necessary to conduct a principal component analysis or factor analysis. Field (2018) suggested examining the correlation matrix for correlations above .80 and removing one of the associated variables, in order to avoid multicollinearity. Table 2 provides the correlation matrix for items under consideration for the Hazing Attitudes and Perceptions Scale.

**Table 2***Item Correlation Matrix*

Statement	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7
Item 1: It can be hazing even if someone agrees to participate	1.00	0.33	0.35	0.34	0.38	0.41	0.30
Item 2: Hazing is not an effective way to create bonding	0.33	1.00	0.73	0.71	0.46	0.51	0.46
Item 3: There is no good reason to haze new members of a group	0.35	0.73	1.00	0.75	0.55	0.60	0.53
Item 4: Hazing is not an effective way to initiate new members	0.34	0.71	0.75	1.00	0.58	0.62	0.53
Item 5: Hazing is a problem because it can cause physical harm	0.38	0.46	0.55	0.58	1.00	0.86	0.53
Item 6: Hazing is a problem because it can cause emotional harm	0.41	0.51	0.60	0.62	0.86	1.00	0.60
Item 7: I do not need to be hazed to feel like I belong to a group	0.30	0.46	0.53	0.53	0.53	0.60	1.00

The guidelines put forth by Tabachnick and Fidell (2013) supported conducting a factor analysis, since many observed correlations between items were above 0.30. Further examining the correlation matrix, Bartlett's Test of Sphericity was found to be significant ( $\chi^2=7581.49$ ,  $df=21$ ,  $p<0.001$ ), indicating the sample correlation matrix was significantly different than the identity matrix. Additionally, the Kaiser-Meyer-Olkin Measure of Sampling Adequacy was 0.85. Taken together, these findings indicated there may be merit in conducting a factor analysis

(Dziuban & Shirkey, 1974). Although there was a strong correlation (0.86) between the items “Hazing is a problem because it can cause emotional harm” and “Hazing is a problem because it can cause physical harm” both of these items were kept in the FA due to my judgment that both of the items had face validity and were relevant to the investigation (McMillian & Schumacher, 2010).

A maximum likelihood estimation (MLE) factor analysis with an oblique rotation was conducted for the seven items under consideration, in order to determine the number of components to extract (Tabachnick & Fidell, 2013). One component was found to explain 57.9% of the observed variance with an eigenvalue of 4.06. A second component was found to explain an additional 12.6% of the variance with an eigenvalue of 0.88. Table 3 outlines the total variance explained by each component, the eigenvalues, and the cumulative variance.

**Table 3**

*Total Variance Explained by Each Component*

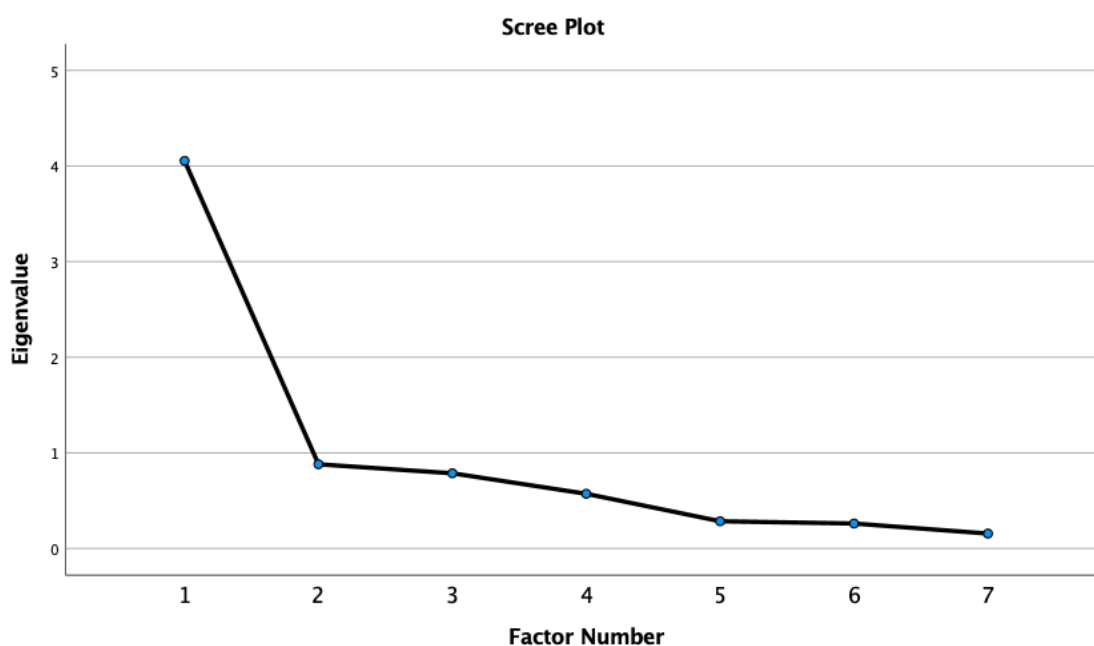
Component	Eigenvalue	Percent of Variance	Cumulative Variance
1	4.06	57.9%	57.9%
2	0.88	12.6%	70.5%
3	0.79	11.2%	81.8%
4	0.57	8.2%	89.9%
5	0.29	4.1%	94.0%
6	0.26	3.7%	97.8%
7	0.16	2.2%	100.0%

Given general guidelines which suggest: (a) researchers select components with eigenvalues greater than 1 and (b) extracted factors typically explain between 50% and 60% of variance in social science research, I believed determining that the scale items included in this investigation measured a single latent construct was appropriate (UCLA Statistical Consulting

Group, 2020). This conclusion is supported by the Scree Plot for the seven-item MLE, where I observed the inflection point (i.e., the point where the additional explanation of variance becomes negligible) at the second component (UCLA Statistical Consulting Group, 2020). As Tabachnick and Fidell (2013) noted “one test of the stability of a FA solution is that it appears regardless of which extraction technique is employed” (p. 638). Therefore, I replicated these findings utilizing a PCA. Figure 2 provides the Scree Plot for the maximum likelihood estimation factor analysis. Table 4 lists the items in the scale measuring the single construct Hazing Attitudes and Perceptions with their factor loadings.

**Figure 2**

*Maximum Likelihood Estimation Scree Plot*



**Table 4***Hazing Attitudes and Perceptions Scale and Factor Loadings*

Statement	Factor Loading
It can be hazing even if someone agrees to participate	0.41
Hazing is not an effective way to create bonding	0.76
There is no good reason to haze new members of a group	0.83
Hazing is not an effective way to initiate new members	0.84
Hazing is a problem because it can cause physical harm	0.72
Hazing is a problem because it can cause emotional harm	0.77
I do not need to be hazed to feel like I belong to a group	0.62

***Scale Reliability***

The maximum likelihood estimation factor analysis presented previously determined the validity of the Hazing Attitudes and Perceptions scale, confirming the seven items measured a single latent construct. In addition to validity, scales must also be shown to be reliable, meaning they consistently measure the construct under consideration (Creswell, 2009; McMillian & Schumacher, 2010). The Cronbach's alpha of a scale comprised of Likert rating items is often used to assess a scale's consistency and ability to precisely measure a single construct, with Cronbach alpha values above 0.70 suggesting reliability (Croasmun & Ostrom, 2011; Willits et al., 2016). To assess the Cronbach alpha, a scale should be comprised of at least three items and, preferably, should contain five or more items (McMillian & Schumacher, 2010). The Cronbach alpha of the Hazing Attitudes and Perceptions scale, comprised of seven items, was calculated in the Statistical Pack for the Social Sciences (SPSS) to be 0.860. This indicates a high level of internal consistency and that the scale is measuring the same latent construct, student attitudes and perceptions of hazing (Steiner, 2003). Given the demonstrated validity and reliability of the Hazing Attitudes and Perceptions scale, it was utilized in this investigation.

## Participants and Site Selection

As noted in Chapter Two, Bass et al. (2014) suggested that four types of NCAA Division III institutions exist: academically elite institutions, large public universities, mission-driven private colleges, and liberal arts colleges and universities. The five institutions from which data were collected for this investigation included a mission-driven private college located in the Midwest, a private liberal arts college located in the West, a large public university located in the Northeast, and two academically elite institutions located in the Northeast. Undergraduate enrollment at these institutions ranged from approximately 1,500 to 5,500 students. These colleges and universities were identified using a convenience sampling strategy, with all having expressed an interest in hazing prevention and a desire to assess the nature and extent of hazing on their campuses (McMillian & Schumacher, 2010). Table 5 provides an overview of each of the participating institutions.

**Table 5**

### *Overview of Participating Institutions*

NCAA Division III Campus	Location	Undergrad Enrollment	Overall Athlete Percentage	Sample Athlete Percentage
Academically Elite Institution A	Northeast	1,900	36.4%	36.1%
Academically Elite Institution B	Northeast	5,500	14.9%	15.2%
Large Public University	Northeast	5,500	8.9%	10.7%
Mission-Driven Private College	Midwest	2,300	25.7%	30.4%
Private Liberal Arts College	West	1,500	26.5%	26.8%

### **Institutional Samples**

Each of the five participating colleges and universities were asked to provide a random sample of student email addresses that represented at least 25% of the full-time, undergraduate student population between the ages of 18-25. Institutions provided samples that represented



between 46.6% and 100.0% of their undergraduate student population, 67.7% overall across all five institutions. Surveys were administered between April 2013 and May 2018 for the five campuses and remained open for either a two- or three-week period, depending on institutional needs. Campus response rates (i.e., the percentage of students invited to participate that completed the survey) ranged from 9.5% to 28.6%, 17.2% overall, and exceeded response rates from previous examinations of hazing in postsecondary contexts (Allan & Madden, 2008; Allan et al., 2019). Allan and Madden (2008) had a 12.0% response rate for their national study of student hazing and Allan et al. (2019) had a 10.4% response rate across institutions comprising the Hazing Prevention Consortium (HPC). Completion rates, based on the number of individuals that began the survey, ranged from 59.6% to 73.0%, 64.7% overall, and are comparable to completion rates observed by Allan and Madden who had between 67.0% and 73.0% completion rates across national study campuses and Allan et al. who documented a 66.9% completion rate across institutions participating in the first cohort of the Hazing Prevention Consortium. Table 6 provides an overview of each institutional sample and response rate.

**Table 6**

*Campus Hazing Survey Institutional Sample and Response Rate*

NCAA Division III Campus	Number of Invites Sent	Sample Percentage	Number of Participants	Response Rate
Academically Elite Institution A	1,900	100.0%	382	20.1%
Academically Elite Institution B	2,561	46.6%	243	9.5%
Large Public University	3,500	63.6%	457	13.0%
Mission-Driven Private College	2,286	99.4%	654	28.6%
Private Liberal Arts College	1,052	70.1%	205	19.5%
Overall	11,299	67.7%	1,941	17.2%

### *Campus Survey Response Rates*

While the overall participant response rates across these five institutions were above those observed in previous studies of student hazing (e.g., Allan & Madden, 2008; Allan et al., 2019), these percentages are also lower than the percentages some higher education researchers (e.g., Porter & Umbach, 2006; Sax et al., 2008) advocate for to reduce response bias. Response bias is conceptualized as the extent to which survey nonresponse leads to inaccurate population estimates (Creswell, 2009). Pike (2007) noted the heavy reliance of researchers in higher education on survey data, finding that over 60% of published manuscripts in higher education journals utilized surveys. Given this dependence and Porter and colleagues' (2004) assertion that decreased costs associated with designing and administering online surveys would increase student survey fatigue, it is unsurprising that student response rates in higher education research are declining (Dey, 1997; National Research Council, 2013). Several scholars, however, have critiqued the assertion that low response rates necessarily result in survey response bias (e.g., Curtin et al., 2000; Massey & Tourangeau, 2013; Peytchev, 2013).

Recently, Fosnacht and colleagues (2017) examined the importance of response rates for college and university surveys and found that estimates for several measures of college student engagement (e.g., level of academic challenges, active and collaborative learning, perceptions of a supportive campus environment) were reliable under low response rate conditions (i.e., response rates between 5% and 10%) with samples of at least 500 student respondents. For smaller samples (i.e., 50 to 75 student respondents), they found response rates of approximately 25% to be sufficient. Fosnacht and colleagues' findings are in accordance with other researchers who have concluded that accurate estimates of college student experiences can be achieved with lower response rates (Hutchinson et al., 1987; Kuh, 2003; Pike, 2012; Saraaf, 2005). These

findings, combined with the adequate sample of students across all five participating institutions and higher response rates than those observed in the extant literature, suggest the risk of response bias impacting this investigation is minimal. Therefore, it is likely the sample mean accurately estimates the true population mean, reducing the risk of Type II error when conducting inferential statistical analyses during this study (Fosnacht et al., 2017; McMillian & Schumacher, 2010).

### **Sample Demographics**

In aggregate, 1,941 students across the five Division III institutions were examined in this study. These respondents were asked which type of organization, group, or team they had been most involved with during their time on campus (e.g., varsity athletic team, fraternity or sorority, performing arts organization, academic club), referred to as their “primary organization” throughout the remainder of the survey. Of the 1,941 participants, 478 (24.6%) indicated their primary organization was a varsity athletic team, 251 (12.9%) indicated their primary organization was a fraternity or sorority, and 1,212 (62.4%) indicated their primary organization was a group other than a varsity athletic team, fraternity, or sorority. Unlike previous examinations of college athlete hazing (e.g., Hoover, 1999), participants who selected varsity athletic team as their primary organization were not asked to specify the sport(s) they participated in. Demographic data regarding race/ethnicity and gender identity were collected across each of the five institutions, with 43.1% of varsity athletes identifying as men, 56.9% identifying as women, and 0.0% identifying as transgender. For non-varsity athletes, 27.2% identified as men, 72.0% identified as women, and 0.8% identified as transgender. Over 80 percent (84.5%) of varsity athletes identified as white and 15.5% of varsity athletes identified as belonging to a minoritized student population, whereas 75.7% of non-athletes indicated they

were white and 24.3% belonged to minoritized student populations. Table 7 provides an overview of varsity athlete and non-athlete respondent demographics.

**Table 7**

*Varsity Athlete and Non-Athlete Participant Demographic Overview*

Athlete Status	Percentage Men	Percentage Women	Percentage Transgender	Percentage White	Percentage Minoritized
Varsity Athletes	43.1%	56.9%	0.0%	84.5%	15.5%
Non-Varsity Athletes	27.2%	72.0%	0.8%	75.7%	24.3%

The sample utilized for this investigation shares many commonalities with the overall composition of NCAA Division III. As previously noted, convenience sampling yielded five institutions that, when considered in the typology outlined by Bass et al. (2014), cover all of the institutional types and much of the institutional diversity present within the division. As with the entirety of NCAA Division III, institutions in this sample have a range of enrollments, scope, and missions and there is geographic diversity with institutions located in the Northeast, Midwest, and West. Four of the five participating institutions are private, a percentage in line with the overall NCAA Division III figure of 80%. Additionally, the athlete sample percentage (24.6%) observed at these Division III campuses closely mirrors the actual campus athlete percentages and the overall athlete percentage throughout NCAA Division III (25.0%) (“Division III 2018-2019 facts and figures,” 2018).

While the sample used in this investigation is representative of NCAA Division III based on institutional characteristics and overall athlete percentage, one weakness of the sample is that it is less representative when examined across individual demographic characteristics. For instance, although male varsity athletes comprise a higher percentage of varsity athlete participants than male non-athletes comprise of non-athlete participants, the sample male varsity

athlete percentage (43.1%) is lower than the percentage of male varsity athletes throughout NCAA Division III (58.3%). Other researchers using survey-based inquiries to examine hazing in other college athletics contexts have had a similar relative lack of male participants (e.g., Johnson et al., 2018; Waldron, 2015). Furthermore, a higher percentage of varsity athletes in this sample indicated they were white (84.5%) than the average throughout NCAA Division III (76.4%). Implications of this non-representativeness are discussed in the limitations section in Chapter Five. Table 8 provides an overview of sample varsity athlete demographics compared to overall NCAA Division III demographics.

**Table 8**

*Sample Varsity Athlete Demographic Overview Relative to NCAA Division III*

Demographic Item	NCAA Division III Percentage	Athlete Sample Percentage
Male Varsity Athletes	58.3%	43.1%
Female Varsity Athletes	41.7%	56.9%
White Varsity Athletes	76.4%	84.5%
Minoritized Varsity Athletes	23.6%	15.5%
Overall Varsity Athlete Percentage	25.0%	24.6%

In sum, the five participating NCAA Division III institutions in this investigation were identified utilizing a convenience sampling strategy. These institutions provided samples that ranged from 46.6% to 100% of their undergraduate student population between the ages of 18-25 and these samples yielded 1,941 total participants with response rates exceeding and survey completion rates comparable to those observed in extant literature (Allan & Madden, 2008; Allan et al., 2019). Overall, the characteristics of this sample are in line with the composition of NCAA Division III, with the exception of the underrepresentation of male athletes and overrepresentation of white athletes.

### **Selection of Variables**

The selection of the independent and dependent variables used for this investigation was based on previous studies utilizing the modified version of the National Survey of Student Hazing (e.g., Allan et al., 2019; Johnson et al., 2018; Silveira & Hudson, 2015), findings from extant literature examining hazing in a postsecondary context (e.g., Campo et al., 2005; Hoover, 1999; Waldron, 2015), research focused on NCAA Division III athletics (e.g., Beaver, 2014; Miranda, 2009; Sparvero & Warner, 2013), and the conceptual frameworks guiding this inquiry (e.g., Allan, 2015; Allan & Kerschner, 2020; Dahlburg & Krug, 2002). My researcher positionality as a critical quantitative scholar informed the research questions and my motivations for engaging in this research, subsequently impacting the selection of variables (Stage, 2007). As Tabachnick and Fidell (2013) noted, it is of critical importance to select predictors on the basis of a well-justified, theoretical model.

Independent variables at the individual level initially included were Male, Minoritized, Undergraduate Year, Primary Athlete, Primary Greek, Non-Greek Life Athlete, Hazed in High School, Prevention Activities, Hazing Attitudes and Perceptions, Harassment Hazing, and Intimidation Hazing. Independent variables at the campus level that were initially included were Institution, Institution Location, Campus Setting, Athlete Percentage, Greek Life, and Athletic Spending Per Athlete. Dependent variables initially included were Hazed, Violence Hazing, Harassment Hazing, Intimidation Hazing, Hazed in High School, and Identify Hazing. These independent and dependent variables are subsequently discussed. Some variables (e.g., Intimidation Hazing, Harassment Hazing) were utilized as both independent and dependent variables throughout this investigation, depending on the research question being examined. Previous quantitative inquiries focused on hazing in a postsecondary context (e.g., Allan et al.,

2019; Campo et al., 2005; Waldron, 2015) informed the coding of the independent and dependent variables and dependent and dummy coded predictor variables were coded according to the method of “SYSTAT LOGIT” as outlined by Tabachnick and Fidell (2013) where response categories (e.g., experienced hazing, minoritized) were coded 1 and reference categories (e.g., did not experience hazing, white) were coded 0. Table 9 provides descriptions and coding for each of these variables.

**Table 9***Independent and Dependent Variable and Coding Overview*

Variable Name	Definition and Coding
<i>Dependent Variables</i>	
Hazed	Dichotomous Variable 0 = Did not experience hazing 1 = Did experience hazing
Violence Hazing	Dichotomous Variable 0 = Did not experience violence hazing 1 = Did experience violence hazing
Harassment Hazing	Dichotomous Variable 0 = Did not experience harassment hazing 1 = Did experience harassment hazing
Intimidation Hazing	Dichotomous Variable 0 = Did not experience intimidation hazing 1 = Did experience intimidation hazing
Hazed in High School	Dichotomous Variable 0 = Not Hazed in High School 1 = Hazed in High School
Identify Hazing	Dichotomous Variable 0 = Does not recognize experience as hazing 1 = Recognizes experience as hazing
<i>Independent Variables</i>	
<i>Individual Level Variables</i>	
Male	Dichotomous Variable 0 = Female, transgender, or non-binary participant 1 = Male participant
Minoritized	Dichotomous Variable 0 = White 1 = Minoritized



**Table 9 Continued**

Variable Name	Definition
Undergraduate Year	<p>A nominal variable dummy coded into three unique variables with 0 = No and 1 = Yes. Fourth-year undergraduate as reference category</p> <p>First-year undergraduate Second-year undergraduate Third-year undergraduate Fourth-year undergraduate</p>
Primary Athlete	<p>Dichotomous Variable 0 = Non-Varsity Athlete 1 = Varsity Athlete</p>
Primary Greek	<p>Dichotomous Variable 0 = Non-Greek Life Member 1 = Greek Life Member</p>
Non-Greek Life Athlete	<p>Dichotomous Variable 0 = Varsity Athlete belonging to Greek Life 1 = Varsity Athlete not belonging to Greek Life</p>
Hazed in High School	<p>Dichotomous Variable 0 = Not Hazed in High School 1 = Hazed in High School</p>
Prevention Activities	<p>Continuous Variable A continuous variable ranging from 0 to 4</p>
Hazing Attitudes and Perceptions	<p>Continuous Variable A continuous variable ranging from 7 to 42</p>
Intimidation Hazing	<p>Dichotomous Variable 0 = Did not experience intimidation hazing 1 = Did experience intimidation hazing</p>
Harassment Hazing	<p>Dichotomous Variable 0 = Did not experience harassment hazing 1 = Did experience harassment hazing</p>

**Table 9 Continued**

Variable Name	Definition
<i>Campus Level Variables</i>	
Institution	<p>A nominal variable dummy coded into four unique variables with 0 = No and 1 = Yes. Academically Elite Institution A as reference category</p> <p>Academically Elite Institution A Academically Elite Institution B Mission-Driven Private College Private Liberal Arts College Large Public University</p>
Institution Location	<p>Dichotomous Variable</p> <p>0 = Institution not in the Northeast 1 = Institution in the Northeast</p>
Campus Setting	<p>Dichotomous Variable</p> <p>0=Urban 1=Rural</p>
Athlete Percentage	<p>Continuous Variable</p> <p>A continuous variable ranging from 0 to 100</p>
Greek Life	<p>Dichotomous Variable</p> <p>0=Campus does not have Greek Life 1=Campus does have Greek Life</p>
Athletic Spending Per Athlete (in thousands)	<p>Continuous Variable</p> <p>A continuous variable ranging from 6.0 to 11.0</p>

### **Spectrum of Hazing, Independent, and Dependent Variables**

Three variables which were aggregated for use as independent and dependent variables in this investigation were derived from a review of the literature examining hazing in college athletics. As noted previously, Hoover (1999) categorized hazing behaviors as “questionable” (e.g., being yelled, cursed, or sworn at; being forced to wear embarrassing clothing), “alcohol related” (e.g., consuming alcohol on recruitment visits, participating in a drinking contest), and “unacceptable” (e.g., making prank calls or harassing others, destroying or stealing property). Several researchers (e.g., Campo et al., 2005; Hamilton et al., 2013; McGlone, 2010; Waldron, 2015) have adapted and expanded upon this categorization of hazing behaviors in subsequent investigations of college student hazing.

Borrowing from the continuum of sexual violence first proposed by Kelly (1987), Allan (2015) and Allan and Kerschner (2020) outlined the spectrum of hazing. As conceptualized, within the spectrum of hazing the recognition of hazing behaviors occurring most frequently is low, suggesting normalization of these actions, and the recognition of hazing behaviors occurring less frequently is high. Allan and Kerschner proposed preliminarily dividing hazing behaviors into three categories along this spectrum, “intimidation hazing” (e.g., associating with specific people and not others, acting as a personal servant to other members) where recognition of the behavior as hazing is low but the frequency of occurrence is high, “harassment hazing” (e.g., attending a skit night or roast where other members are humiliated, wearing embarrassing clothing) where recognition and frequency are both medium, and “violence hazing” (e.g., being whipped, kicked, or beaten; being tied up, taped, or confined to a small space) where recognition of the behavior as hazing is high but the frequency of occurrence is low. Considering examples

offered by Allan and Kerschner in proposing the spectrum of hazing and the work of scholars that have previously examined hazing in postsecondary education and borrowed from Hoover's (1999) typology, the 35 hazing behaviors participants in this investigation were asked about experiencing in order to join or maintain membership in their groups, teams, and organizations were categorized as Intimidation Hazing, Harassment Hazing, and Violence Hazing. Figure 1 in Chapter One previously provided a visual of the spectrum of hazing, as conceptualized by Allan and Allan and Kerschner. Tables 10 through 12 outline the list of hazing behaviors organized into the Intimidation Hazing, Harassment Hazing, and Violence Hazing variables based on the previously described review of literature.

**Table 10**

*Intimidation Hazing Behaviors*

Behaviors
Sing or chant in a public situation that is not a related event, game, or practice
Associate with specific people and not others
Act as a personal servant to other members
Be yelled, screamed, or cursed at by other members
Be awakened at night by other members
Endure harsh weather conditions without proper clothing
Participate in a "kangaroo" court or mock trial
Be deprived of food
Be deprived of sleep
Skip regular hygiene practices

**Table 11***Harassment Hazing Behaviors*

Behaviors
Attend a skit night or roast where other members are humiliated
Participate in a drinking game
Wear clothing that is embarrassing and not part of a uniform
Shave your head or other body parts
Have humiliating or degrading things written on your clothes or body
Start or participate in a food fight
Mark areas of fat on your body
Make prank phone calls or harass others
Simulate sex acts in front of same gender
Simulate sex acts in front of other gender

**Table 12***Violence Hazing Behaviors*

Behavior
Get a tattoo or pierce a body part
Be branded
Drink or eat gross stuff
Be tied up, taped, or confined to a small space
Dropped off in an unfamiliar location
Be paddled or slapped
Be whipped, kicked, or beaten
Drink large amounts of a non-alcoholic beverage
Drink large amounts of an alcoholic beverage
Be nude or partially nude in front of group or in public place
Destroy or steal property
Watch live sex acts
Do sex acts with same gender
Do sex acts with other gender
Keep a tally of men or women with whom you had sex

*Independent Variables*

Based on the conceptual framework guiding this inquiry, independent variables were identified at the individual level and campus level for this investigation. Independent variables at the individual level included Male, Minoritized, Undergraduate Year, Primary Athlete, Primary Greek, Non-Greek Life Athlete, Hazed in High School, Prevention Activities, Hazing Attitudes and Perceptions, Intimidation Hazing, and Harassment Hazing. Independent variables at the campus level included Institution, Institution Location, Campus Setting, Athlete Percentage, Greek Life, and Athletic Spending Per Athlete.

**Male.** In completing the modified version of the National Survey for Student Hazing (Allan & Madden, 2008), participants were asked to which gender they most identify. In earlier versions of this survey, this question included three options: male, female, and transgender. In later versions of the survey, options for non-binary and/or gender nonconforming were added (See Appendix for the most recent version of the survey). Furthermore, at the Mission-Driven Private College, gender information was provided by the institution and matched to respondents based on their email address. Given the evolution of the response options; the lack of athletes identifying as transgender, gender nonconforming, and/or nonbinary in the sample; and previous studies of student hazing concluding students identifying as men were more likely to experience hazing (e.g., Allan & Madden, 2008; Campo et al., 2005; Hoover, 1999; Lafferty et al., 2017), responses for this variable were recoded 1 for male participants and 0 for respondents identifying as women, transgender, gender nonconforming, and/or nonbinary.

**Minoritized.** Participants were also asked to which race/ethnicity they most identified. Unlike questions asking about respondent gender identity, options for this question were consistent throughout the research process, although a similar response matching process was carried out for participants at the Mission-Driven Private College. As illustrated in the sample demographics section previously, participants from these institutions were predominantly white. Additionally, a higher percentage of athletes identified as white than their non-athlete peers. Following criteria put forth by Tabachnick and Fidell (2013), noting the uneven distribution of responses from students belonging to minoritized populations (e.g., Asian, Black, Hispanic/Latinx, Multi-Racial), responses from minoritized students were collapsed into a single variable and coded 1 and students identifying as white were coded 0.

**Undergraduate Year.** Students were asked to provide their academic year (i.e., first-year undergraduate, second-year undergraduate, third-year undergraduate, or fourth-year undergraduate). These options were coded equivalent to their academic year (e.g., 1=first-year undergraduate, 2=second-year undergraduate, etc.) for descriptive and basic inferential analyses and coded into dummy variables (e.g., 0=non-first-year undergraduate 1=first-year undergraduate) for logistic regression analysis.

**Primary Athlete.** As noted earlier, students were asked to identify an organization, group, or team they had been most involved with during their time on campus (e.g., varsity athletic team, fraternity or sorority, performing arts organization, academic club). This response was referred to as their “primary organization” throughout the remainder of the survey. Students were prompted to respond to the hazing behavior questions in regard to what they had or had not experienced while joining or continuing to participate in their primary organizations. Based on research indicating athletes were more likely to experience hazing than their non-athlete peers (e.g., Allan & Madden, 2008; Allan et al., 2019; Campo et al., 2005), respondents who indicated they were varsity athletes were coded 1 and those who indicated their primary organization was not a varsity athletic team were coded 0.

**Primary Greek.** Similar to the Primary Athlete variable, based on research indicating students belonging to fraternities and sororities were more likely than their peers not belonging to Greek letter organizations to experience hazing (e.g., Allan & Madden, 2008; Allan et al., 2019; Campo et al., 2005), respondents who indicated their primary organization was a social fraternity or sorority were coded 1 and those who indicated their primary organization was not a Greek letter organization were coded 0.



**Non-Greek Life Athlete.** Building from Hoover's (1999) finding that "Non-Greeks were most at risk of being hazed for athletics, even though a Greek system on campus is a significant predictor of hazing" (p. 6), this variable was created by examining responses to the types of organizations respondents indicated belonging to other than their primary organization. Athletes who indicated they also belonged to a social fraternity or sorority were coded 0 and athletes who did not belong to a Greek-letter organization were coded 1.

**Hazed in High School.** All respondents were asked directly if they experienced hazing in high school. Students who indicated they experienced hazing in high school were theorized to be more at risk for experiencing hazing in a postsecondary setting and were coded 1. Students who indicated they did not experience hazing in high school or were unsure of if they experienced hazing in high school were coded 0.

**Prevention Activities.** Respondents were asked if they experienced four behaviors commonly classified as hazing prevention activities and/or non-hazing team building behaviors during their time as a member of their primary organization in the modified version of the National Survey of Student Hazing. These activities were: (a) Participate in a group outing with other members (e.g., canoe trip) led by a trained professional, (b) Attend an alcohol-free function with members, (c) Do volunteer community service together, and (d) Complete a challenge or ropes course facilitated by a trained professional. These responses were totaled up and formed a scale with a range of 0 to 4. Campo et al. (2005) found a positive correlation between student experiences of hazing and non-hazing team building activities similar to the activities included in this investigation. Campo and colleagues theorized such activities may be supplemental, rather than substitutional, for hazing. Therefore, I theorized the Prevention Activities scale may be predictive of student hazing experiences in this investigation.

**Hazing Attitudes and Perceptions.** As described previously in the measure development section, respondents were asked several questions with Likert-response options about their attitudes and perceptions of hazing. These responses were summed and formed the Hazing Attitudes and Perceptions scale with a range of 7 to 42.

**Intimidation Hazing.** Students were asked if they experienced several hazing behaviors in order to join or maintain membership in their primary organization that, as previously explained, were classified as intimidation hazing building from the work of Allan (2015), Allan and Kerschner (2020), and the typology of hazing outlined by Hoover (1999). Respondents who indicated they experienced at least one intimidation hazing behavior (e.g., associate with specific people and not others, act as a personal servant to other members) were coded 1 and those who did not experience any intimidation hazing behaviors were coded 0.

**Harassment Hazing.** As with intimidation hazing, students were asked if they experienced several hazing behaviors in order to join or maintain membership in their primary organization that were classified as harassment hazing building from the work of Allan (2015), Allan and Kerschner (2020), and the typology of hazing outlined by Hoover (1999). Respondents who indicated they experienced at least one harassment hazing behavior (e.g., attend a skit night or roast where other members are humiliated, wear clothing that is embarrassing and not part of a uniform) were coded 1 and those who did not experience any harassment hazing behaviors were coded 0.

**Institution.** The nominal codes for the five institutions were translated into four dummy codes (e.g., 1=Mission-Driven Private, 0=Non-Mission-Driven Private, 1=Academically Elite B, 0=Non-Academically Elite B, etc.) for logistic regression analysis.

**Institution Location.** Building from Hoover's (1999) findings that athletes at campuses located in the East and West had the most alcohol-related hazing and athletes at institutions located in the South and Midwest were more at risk for dangerous and potentially illegal hazing than their peers located elsewhere, institutions in this investigation were nominally coded based on their Northeast, Midwest, or West geographic location in the continental United States (see Table 5). Initially two dummy codes were created for logistic regression analysis, later revised to one dummy code (i.e., Northeast and non-Northeast) in order to avoid violating the absence of multicollinearity assumption.

**Campus Setting.** Building from Hoover's (1999) finding that athletes on rural campuses were more likely to experience hazing than their peers at urban campuses, responses from participants at institutions located in rural settings were coded 1 and responses from participants located in urban settings were coded 0.

**Athlete Percentage.** Based on scholars examining and commenting on the institutional and philosophical diversity of NCAA Division III athletics (e.g., Bandre, 2011; Beaver, 2014; Miranda, 2009), the percentage of the undergraduate population participating in varsity athletics was calculated utilizing data publicly reported in accordance with the Equity in Athletics Disclosure Act (EADA) (U.S. Department of Education, 2020). For the academic year the campus hazing survey was launched, the non-duplicated number of athletes and the overall undergraduate enrollment was exported with the EADA Data Analysis Cutting Tool.

**Greek Life.** Based on Hoover's (1999) finding that athletes were more likely to experience hazing at institutions with fraternities and sororities, institutions with Greek letter organizations were coded 1 and institutions without Greek life were coded 0.

**Athletic Spending Per Athlete.** Based on scholars examining and commenting on the institutional and philosophical diversity of NCAA Division III athletics (e.g., Bandre, 2011; Beaver, 2014; Miranda, 2009), the total institutional spending on athletics the academic year institutional campus hazing surveys were launched was exported using the EADA Data Analysis Cutting Tool (U.S. Department of Education, 2020). In order to control for the number of teams sponsored and inflation, campus athletic spending was divided by the number of non-duplicated athletes and translated to present-day dollar amounts. Based on guidelines provided by Tabachnick and Fidell (2013), this amount was then scaled by a factor of a thousand (i.e., an athletic spending per athlete value of 8.5 means, overall, an institution spent \$8,500 dollars per athlete during the academic year individual hazing data were collected).

### ***Dependent Variables***

Based on the conceptual framework and research questions guiding this investigation and previous studies of college athlete hazing and postsecondary hazing, dependent variables were identified. Dependent variables initially included in this investigation were Hazed, Violence Hazing, Harassment Hazing, Intimidation Hazing, Hazed in High School, and Identify Hazing. Harassment Hazing, Intimidation Hazing, and Hazed in High School were outlined in the independent variables section, Hazed, Violence Hazing, and Identify Hazing are subsequently discussed.

**Hazed.** Participants were asked if they experienced 35 behaviors meeting the definition of hazing outlined by Hoover (1999) and Allan and Madden (2008). Respondents who indicated they experienced at least one hazing behavior (e.g., act as a personal servant to other members, participate in a drinking game, attend a skit night or roast where other members are humiliated)

were coded 1 and those who did not experience any of these behaviors meeting the definition of hazing were coded 0.

**Violence Hazing.** As with intimidation and harassment hazing, students were asked if they experienced several hazing behaviors in order to join or maintain membership in their primary organization that were classified as violence hazing. Behaviors were classified as violence hazing building from the work of Allan (2015), Allan and Kerschner (2020), and the typology of hazing outlined by Hoover (1999). Respondents who indicated they experienced at least one violence hazing behavior (e.g., drink large amounts of a non-alcoholic beverage, be whipped, kicked, or beaten) were coded 1 and those who did not experience any violence hazing behaviors were coded 0.

**Identify Hazing.** Participants were asked directly if they were hazed in order to join or maintain membership in their primary organization. Respondents who indicated they were hazed were coded 1 and those who indicated they were not hazed or were unsure if they were hazed were coded 0.

### **Data Analysis**

Data from the 1,941 students across the five participating NCAA Division III campuses were analyzed using SPSS to aggregate databases generated by each institutional survey. This study used descriptive statistics, chi-square analysis, and logistic regression to analyze the data in regard to the research questions outlined previously. Prior to conducting these analyses, I screened the data for inaccuracies, missing data, and outliers (Tabachnick & Fidell, 2013).

### **Data Accuracy, Missing Data, and Outliers**

The accuracy of data, missing data, and outliers were examined in the aggregated SPSS file. Tabachnick and Fidell (2013) commented on the importance of determining the accuracy of

the data and, perhaps most importantly, distinguishing between random and nonrandom missing data in a dataset. While randomly missing data are inevitable because subjects may miss a question and participants in a study might opt to not answer some questions, nonrandomly missing data (occurring when there is a pattern of missing data among questions with a survey) can undermine the validity of the data analysis. With large datasets, such as the one aggregated for this investigation, it may be difficult to determine if data are missing randomly, therefore Tabachnick and Fidell recommend conducting t-tests on the means of continuous variables in the model with and without missing data to determine whether or not there is a significant difference. If data are determined to not be missing randomly, particular variables may be removed from this investigation (Tabachnick & Fidell, 2013). If data are determined to be missing randomly, cases associated with missing data may be deleted if constituting an acceptable percentage of the sample (less than 5%), the mean of the variable may be entered in place of the missing data, or regression methods such as expected maximization or multiple imputation may be used to estimate the missing data, depending on which method is most appropriate (Allison, 2001; Tabachnick & Fidell, 2013).

### ***Data Accuracy***

Determining the accuracy of data involves examining descriptive statistics in order to ensure all values are in range for continuous variables, means and standard deviations are plausible, and discrete variables are properly coded. Factors that could cause distorted correlations were not a consideration for this dataset, as composite variables did not contain reused items (Tabachnick & Fidell, 2013). I confirmed these guidelines were met prior to moving on to an analysis of missing data and checking for outliers.

### *Missing Data*

As Tabachnick and Fidell (2013) asserted, “The pattern of missing data is more important than the amount missing. Missing values scattered randomly through a data matrix pose less serious problems. Nonrandomly missing values, on the other hand, are serious no matter how few of them there are because they affect the generalizability of results” (p. 62). Table 13 summarizes missing data by individual level variable for data gathered by the modified versions of the National Survey of Student Hazing (Allan & Madden, 2008) conducted at participating campuses. Campus level data were gathered by the researcher and therefore featured no missing cases.

**Table 13**

#### *Missing Data Percentages*

Variable	Total n	Missing n	% Missing
Hazed	1,941	0	0.0%
Violence Hazing	1,941	3	0.2%
Harassment Hazing	1,941	3	0.2%
Intimidation Hazing	1,941	2	0.1%
Identify Hazing	1,941	467	24.1%
Male	1,941	3	0.2%
Minoritized	1,941	4	0.2%
Undergraduate Year	1,941	0	0.0%
Primary Athlete	1,941	0	0.0%
Primary Greek	1,941	0	0.0%
Non-Greek Life Athlete	1,941	0	0.0%
Hazed in High School	1,941	4	0.2%
Prevention Activities	1,941	2	0.1%
Hazing Attitudes and Perceptions	1,941	0	0.0%

Noting the high percentage of missing data associated with the variable Identify Hazing, a dummy variable was constructed with cases with missing data coded to 0 and cases that were not missing data coded to 1. An independent sample t-test was performed across the hazing attitude scale with the mean of cases missing data (10.8) significantly different than the mean of cases with data (12.0) ( $t=-4.46$ ,  $df=1,939$ ,  $p=0.011$ ), indicating data were missing nonrandomly (Tabachnick & Fidell, 2013). Further examination determined the majority of the missing cases associated with Identify Hazing ( $n=466$ , 99.8%) were from respondents at the Mission-Driven Private College and were due to an error in the survey. Given this nonrandomly missing data and the broad and exploratory scope of the study, I made the decision to create a version of the final dataset excluding responses from the Mission-Driven Private College (i.e., a version of the final dataset including only responses from participants at Academically Elite Institution A, Academically Elite Institution B, Large Public University, and Private Liberal Arts College) for use only with descriptive statistics and inferential data analyses focused on predicting the dependent variable Identify Hazing.

Beyond the dependent variable Identify Hazing, other variables included in this investigation that were missing data were determined to be missing data randomly. Furthermore, these data were missing in percentages well below the 5% guideline noted by Tabachnick and Fidell (2013), which suggested determining how to deal with these cases posed less of a threat to the validity of the research and any procedure for dealing with missing data was likely to yield similar results. Given the low number of cases with missing data, I decided to delete cases with missing data across the variables outlined above with randomly missing responses (e.g., Harassment Hazing, Male, Minoritized), rather than perform a multiple imputation or mean substitution (Tabachnick & Fidell, 2013).



## ***Outliers***

Finally, univariate outliers were considered amongst dichotomous and continuous variables remaining in the dataset. The frequency of splits amongst dichotomous variables, as suggested by Rummel (1970), was considered and  $z$  scores were calculated across continuous variables, with  $z$  scores in excess of 3.29 ( $p < 0.001$ ) examined as potential outliers (Tabachnick & Fidell, 2013). As noted by Tabachnick and Fidell (2013), “The extremeness of a standardized score depends on the size of the sample; with a very large  $N$ , a few standardized scores in excess of 3.29 are expected” (p. 73). Given the number of participants, I decided to eliminate nine additional cases as outliers with  $z$  scores above 4.00 for the Hazing Attitudes and Perceptions Scale. After checking for data accuracy and eliminating cases with missing data and outliers, the final data set used in this investigation featured 1,914 responses, 98.6% of the original sample, 470 of which were varsity athlete responses (98.3% of the original athlete sample). The dataset used only for predicting the dependent variable Identify Hazing featured 1,453 responses, 356 of which were varsity athlete responses.

## **Descriptive Statistics**

Descriptive statistics were utilized in order to organize and summarize data and, as a result, improve comprehension (Coladarci & Cobb, 2014). As noted by Tabachnick and Fidell (2013) the “use of inferential and descriptive statistics is rarely an either-or proposition. We are usually interested in both describing and making inferences about a data set” (p. 8). Therefore, after confirming the accuracy of the aggregated data, accounting for missing data, and removing outliers, descriptive statistics in the form of frequencies were utilized to fully describe the sample. According to McMillian and Schumacher (2010) “The use of descriptive statistics is the

most fundamental way to summarize data, and it is indispensable in interpreting the results of quantitative research” (p. 149).

### **Chi-Square Analysis**

After completing the descriptive statistical analysis, chi-square tests for independence were utilized to examine the relationship between categorical independent variables such as Primary Athlete, Male, and Minoritized and categorical dependent variables such as Hazed, Violence Hazing, Harassment Hazing, and Intimidation Hazing. The data collected by this investigation across these variables meets the requirements for chi-square tests for independence because there are two categorical variables, two or more categories for each variable, independence of observations, and a large enough sample size that expected frequencies are large enough (Kent State University, 2020). At the completion of the chi-square analyses, point-biserial correlations were considered to examine the strength of association between continuous independent variables (e.g., Hazing Attitudes and Perceptions, Prevention Activities) and dichotomous variables (e.g., Hazed, Violence Hazing). SPSS was utilized to check if these data met the remaining assumptions for point-biserial correlations. Outliers for the continuous variables were examined utilizing boxplots, the normality of the continuous variables was tested using the Shapiro-Wilk test of normality, and whether or not the continuous variables had equal variances for each category of the dichotomous variables was tested using Levene’s test of equality of variances (Laerd Statistics, 2021). Both of the continuous variables, however, were found to violate the normality requirement to conduct this analysis. Based on an alpha of 0.05, Prevention Activities ( $W = 0.909, p < .001$ ) and Hazing Attitudes and Perceptions ( $W = 0.904, p < .001$ ) were statistically significantly different from the normal distribution. Results of this test are presented in Table 14.

**Table 14**

*Shapiro-Wilk Test of Normality Results for the Continuous Variables Hazing Attitudes and Perceptions and Prevention Activities*

Variable	Shapiro-Wilk Statistic	df	p-value
Hazing Attitudes and Perceptions	0.904	1,914	<0.001
Prevention Activities	0.909	1,914	<0.001

### **Logistic Regression**

Descriptive statistics were used to organize and summarize the data and these descriptive statistics and chi-square analyses were used to address the first set of research questions posed by this investigation. These questions sought to examine the nature and extent of hazing across participating NCAA Division III institutions and determine whether or not athlete experiences with hazing differ from their non-athlete peers. The second and third sets of research questions, focused on determining if certain variables across the social ecology are predictive of hazing experiences and if more normalized hazing experiences are predictive of more rare instances of hazing along the spectrum of hazing, were analyzed using logistic regression. Logistic regression, proposed as an alternative in the late 1960s and early 1970s to overcome the limitations of ordinary least squares (OLS) regression and linear discriminant function analysis to examine factors predictive of a binary outcome, has become established in higher educational research literature due to the fact that many issues in higher education (e.g., retention, admission, graduation) involve dichotomous results (Austin et al., 1992; Cabrera, 1994; Peng et al., 2002; Peng, 2016). Peng and colleagues (2002) documented the increasing presence throughout the 1990s of studies using logistic regression analysis across a range of topics in leading higher education journals. More recently, researchers such as Campo et al. (2005), Rogers et al. (2012),

and Waldron (2015) have utilized logistic regression analysis to examine factors predictive of student hazing experiences in higher education.

### ***Assumptions of Logistic Regression***

As opposed to discriminant function analysis, which can only include continuous independent variables, and OLS, which requires that data not violate the assumptions of linearity, normality, and continuity, logistic regression can include categorical and continuous independent variables and is more flexible, requiring a dichotomous dependent variable, independence of observations, an adequate sample size, absence of multicollinearity, and linearity of continuous predictor variables and log odds (Peng et al., 2002; Tabachnick & Fidell, 2013). These assumptions are subsequently examined.

**Dichotomous Dependent Variables.** Binary logistic regression assumes that the dependent variables being examined are dichotomous. This investigation meets this assumption, as the dependent variables being predicted, as described in the variables section, are dichotomous. The dependent variable for the second set of research questions is Hazed, which is dichotomous between participants who experienced hazing and participants who did not experience hazing. The dependent variables for the third set of research questions are Violence Hazing, Intimidation Hazing, and Identify Hazing. Violence Hazing and Intimidation Hazing are dichotomous between participants who experienced these types of hazing and participants who did not experience these types of hazing. Identify Hazing is dichotomous between participants who identified they experienced hazing and those who did not.

**Independence of Observations.** Binary logistic regression also assumes that all data are independent and do not come from matched or pre-/post-data collection designs. This assumption was met. Each participant was allowed to participate in their institutional survey only

once and was assigned a unique survey collector ID in order to prevent multiple entries associated with a given email address.

**Adequate Sample Size.** Regarding sample size for logistic regression analyses, several researchers (Cabrera, 1994; Peng et al., 2002; Peng, 2016) have noted that extant literature has not converged on specific guidelines. Addressing this shortcoming, these researchers have noted that authors on multivariate statistics recommend a minimum sample size of 50 to 100 participants, plus a variable number that is a function of the number of predictors multiplied by a factor of ten (i.e., if analyzing an outcome with three predictor variables, the recommendation would be for a sample size between 80 and 130). In the independent variables section, 22 potential predictor variables were outlined with dummy variables taken into consideration. Based on these guidelines, a sample size of 270 to 320 is required. Since this investigation included 1,914 total student responses and 470 athlete responses, both of these samples are of adequate size to conduct logistic regression analyses with the number of predictor variables under consideration.

**Absence of Multicollinearity.** In order to examine potential multicollinearity, when two variables are highly correlated, between independent variables under consideration for logistic regression analyses in this investigation, correlations between variables were first examined in SPSS before variance inflation factors (VIFs) were calculated (Menard, 2010). Although no firm statistical rules are set, correlations above 0.700 between independent variables are generally considered concerning and may indicate potential multicollinearity (Menard, 2010). Upon examining the correlations between each of the 22 independent variables under consideration for the logistic regression analyses, I identified six correlations above the 0.700 threshold discussed previously: Greek Life and Athlete Percentage (-0.706), Greek Life and

Athletic Spending (-0.782), Institution Location and Athletic Spending (0.868), Institution Location and Mission-Driven Private (-0.800), Large Public and Athlete Percentage (-0.781), and Mission-Driven Private and Athletic Spending (-0.754). Additionally, I observed that the correlation between Campus Setting and Academically Elite B (-0.693) was close to the 0.700 threshold.

Taking these correlations into consideration, I calculated the VIFs for each of the 22 independent variables in SPSS. From this analysis, SPSS removed five independent variables I identified previously from the analysis for having perfect multicollinearity with other variables: Athlete Percentage, Athletic Spending, Institution Location, Campus Setting, and Greek Life (Gujarati & Porter, 2009). Given this finding and the correlations observed previously, I decided to remove these variables from subsequent analysis. Table 15 presents the VIFs for the remaining 17 variables under consideration for the logistic regression analyses conducted in this investigation. As noted by Menard (2010), if a variable's VIFs is greater than 5 the researcher should be concerned with multicollinearity in the model and variables should not have VIFs greater than 10. All of the VIFs for remaining independent variables were well below these guidelines and therefore the variables were included in this investigation.

**Table 15***Variance Inflation Factors (VIFs) for Remaining Independent Variables*

Independent Variable	Variance Inflation Factor
Harassment Hazing	1.144
Intimidation Hazing	1.089
Male	1.093
Minoritized	1.213
Primary Athlete	1.294
Primary Greek	1.264
Non-Greek Life Athlete	1.205
Hazed in High School	1.037
Prevention Activities	1.153
First Year Undergraduate	1.536
Second Year Undergraduate	1.484
Third Year Undergraduate	1.459
Hazing Attitudes and Perceptions	1.185
Academic Elite B	1.545
Liberal Arts	1.679
Large Public	1.925
Mission-Driven Private	2.026

**Linearity of Continuous Predictor Variables and Log Odds.** The final assumption of logistic regression that data must conform to is that the relationship between any continuous predictor variable in the model and their log odds is linear. Initially, there were four continuous predictor variables considered for this investigation: Hazing Attitudes and Perceptions, Prevention Activities, Athlete Percentage, and Athletic Spending. Two of these independent variables, Athlete Percentage and Athletic Spending, were removed from consideration due to multicollinearity with other independent variables.

As noted by Tabachnick and Fidell (2013), the Box-Tidwell approach is generally the simplest way to test the assumption of the linearity of the logit. Utilizing this approach, the researcher adds terms comprised of interactions between each continuous predictor and its natural logarithm into the logistic regression model (Hosmer & Lemeshow, 2000). As stated by Tabachnick and Fidell, “the assumption is violated if one or more of the added interaction terms are statistically significant” (p. 445). The independent variables that violate the assumption are then subsequently transformed in order to be in compliance with this assumption of logistic regression or removed from the analysis (Tabachnick & Fidell, 2013).

Based on the guidelines put forth by Tabachnick and Fidell (2013) and Hosmer and Lemeshow (2000) for the Box-Tidwell test of the linearity of the logit, I ran a logistic regression including both of these continuous independent variables, their transformed log odds, and their interactions. Table 16 presents the logistic regression results for these independent variables predicting Hazed. Results indicate that neither of the interaction terms were found to be statistically significant based on an alpha of 0.05 and therefore the assumption was met and both variables were included in this investigation.



**Table 16***Box-Tidwell Test Logistic Regression Results*

Variable	<i>B</i>	<i>SE</i>	$\chi^2$	<i>p</i>
Intercept	-8.23	7.75	1.13	0.288
Prevention Activities	4.29	7.39	0.34	0.562
Prevention Activities_LN	-2.46	5.46	0.20	0.652
Interaction-Prevention : Prevention Activities_LN	-1.69	2.66	0.40	0.525
Hazing Attitudes and Perceptions	-0.15	1.32	0.01	0.910
Hazing Attitudes and Perceptions_LN	1.36	4.15	0.11	0.742
Interaction-Hazing Attitudes and Perceptions : Hazing Attitudes and Perceptions_LN	0.04	0.28	0.02	0.887

*Sensitivity Analyses*

Sensitivity analyses were conducted for the four dependent variables (i.e., Hazed, Violence Hazing, Harassment Hazing, and Identify Hazing) that were examined by utilizing logistic regression in this investigation. These sensitivity analyses were conducted with G\*Power version 3.1 to compute the required effect size, represented by odds ratios, given the initial probability for the dependent variable (e.g., the probability of all students experiencing hazing, the probability of varsity athletes experiencing hazing), an alpha level, a power level, and sample sizes for the dataset associated with each dependent variable (Erdfelder et al., 1996). Based on research guidelines, I selected an alpha level of 0.05 and a power level of 0.80 (Bell et al., 2014; McMillian & Schumacher, 2010; Rusticus & Lovato, 2014). The sample size for Hazed, Violence Hazing, and Harassment Hazing was 1,914 total respondents and 470 varsity athletes. As noted previously, due to an error in the survey, the sample size for Identify Hazing excluded

responses from the Mission-Driven Private College and was 1,453 total respondents and 356 varsity athletes.

For dichotomous predictors (e.g., Primary Athlete, Male, Large Public), the odds ratios produced by these sensitivity analyses are the observed odds ratios for when the dichotomous predictor is occurring (e.g., Primary Athlete = 1) that would indicate a power level equal to 0.80. For continuous predictors (e.g., Hazing Attitudes and Perceptions), the odds ratios produced are the observed odds ratios for when the continuous predictor is a standard deviation from its mean that would indicate a power level equal to 0.80. Values more extreme (i.e., further away from 1.00 than the odds ratios produced by the sensitivity analyses) indicate statistical power greater than 0.80 and values less extreme (i.e., closer to 1.00 than the produced odds ratio) indicate statistical power less than 0.80 and higher probability of type II error and accepting a false null hypothesis (McMillian & Schumacher, 2010; Tabachnick & Fidell, 2013). Table 17 presents the results of these sensitivity analyses.

**Table 17**

*Sensitivity Analyses Results for Hazed, Violence Hazing, Harassment Hazing, and Identify Hazing*

Dependent Variable	Initial Probability	Sample Size	Critical Z (+ or -)	P2 $\geq$ P1 Odds Ratio	P2 $\leq$ P1 Odds Ratio
All Respondents: Hazed	0.276	1,914	1.96	1.15	0.87
All Respondents: Violence Hazing	0.086	1,914	1.96	1.26	0.80
All Respondents: Harassment Hazing	0.176	1,914	1.96	1.19	0.84
All Respondents: Identify Hazing	0.048	1,453	1.96	1.40	0.71
Varsity Athletes: Hazed	0.409	470	1.96	1.31	0.77
Varsity Athletes: Violence Hazing	0.140	470	1.96	1.45	0.69
Varsity Athletes: Harassment Hazing	0.304	470	1.96	1.33	0.75
Varsity Athletes: Identify Hazing	0.076	356	1.96	1.73	0.58

### ***Assessment of Logistic Regression Model Fit***

In summary, based on the information outlined previously I utilized logistic regression as a method of data analysis to examine the second and third sets of research questions guiding this investigation. The data meet the necessary assumptions of logistic regression analysis, with dichotomous dependent variables, independence of observations, an adequate sample size relative to the number of independent variables, independent variables that do not feature multicollinearity, and linearity of continuous predictor variables and log odds. Logistic regression is a well-established method of data analysis in the extant literature examining higher education (Peng et al., 2002) and postsecondary hazing (Campo et al., 2005; Rogers et al., 2012;

Waldron, 2015). Sensitivity analyses were conducted in order to compute the required effect sizes, represented by odds ratios, indicating adequate statistical power.

As noted by Tabachnick and Fidell (2013), the researcher uses several goodness-of-fit tests to choose the logistic regression model that does the best job of prediction with the fewest predictors. If a model is found to be statistically significant, the researcher should try to simplify the model by eliminating some predictors while maintaining statistically significant prediction. Peng (2016) and Peng and colleagues (2002) provided an overview of how an educational researcher can assess the soundness of a logistic regression model by examining multiple indicators, a recommendation that I followed throughout this investigation and took into consideration to justify the appropriateness of the logistic regression models presented in Chapter Four. According to these scholars, researchers should conduct and examine: (a) the overall model evaluation, determining if the logistic regression model improves upon the null model through three statistical tests: the Likelihood Ratio, Score, and Wald tests; (b) statistical tests of individual predictors, determining the statistical significance of individual regression coefficients using the Wald chi-square statistic; (c) goodness-of-fit statistics, which assess the fit of the logistic regression model against outcomes, such as the Hosmer-Lemeshow test and the Cox and Snell (1989) and Nagelkerke (1991) R-squared indices; and (d) validations of estimated probabilities (Peng et al., 2002; Peng, 2016).

### **Hypotheses**

In order to address the sets of research questions guiding this investigation and arrive at my key findings, I tested several research hypotheses. These hypotheses are based on a review of the literature and were informed by descriptive statistics in the aggregated data sets. Hypotheses associated with research question set one were assessed utilizing chi-square analyses, though

descriptive statistics were utilized to answer questions not connected to the hypotheses in this research question set. These research hypotheses are subsequently detailed along with their corresponding sets of research questions.

### **Research Question Set One**

Do varsity athletes at these Division III campuses have different hazing experiences than their non-athlete peers? What is the nature and extent of these Division III athlete hazing experiences? Are there institutional differences?

- 1a.  $H_0$ : Across all participants there is not a statistically significant relationship between categorical independent variables such as Primary Athlete, Primary Greek, Minoritized, Male, and Institution and categorical dependent variables such as Hazed, Violence Hazing, Harassment Hazing, Intimidation Hazing, and Hazed in High School.
- 1a.  $H_1$ : Across all participants there is a statistically significant relationship between categorical independent variables such as Primary Athlete, Primary Greek, Minoritized, Male, and Institution and categorical dependent variables such as Hazed, Violence Hazing, Harassment Hazing, Intimidation Hazing, and Hazed in High School.
- 1b.  $H_0$ : Across varsity athletes there is not a statistically significant relationship between categorical independent variables such as Minoritized, Male, and Institution and categorical dependent variables such as Hazed, Violence Hazing, Harassment Hazing, Intimidation Hazing, and Hazed in High School.
- 1b.  $H_1$ : Across varsity athletes there is a statistically significant relationship between categorical independent variables such as Minoritized, Male, and Institution and categorical dependent variables such as Hazed, Violence Hazing, Harassment Hazing, Intimidation Hazing, and Hazed in High School.

## Research Question Set Two

Across levels of the social ecology, are there individual and campus level factors that predict student hazing experiences at these Division III campuses? Are there factors that predict varsity athlete hazing experiences at these institutions?

2a. H<sub>0</sub>: Individual level independent variables (e.g., Male, Minoritized, First-Year) and campus level independent variables (e.g., Liberal Arts, Large Public) do not predict student hazing experiences.

2a. H<sub>1</sub>: Individual level independent variables (e.g., Male, Minoritized, First-Year) and campus level independent variables (e.g., Liberal Arts, Large Public) do predict student hazing experiences.

2b. H<sub>0</sub>: Individual level independent variables (e.g., Male, Minoritized, First-Year) and campus level independent variables (e.g., Liberal Arts, Large Public) do not predict varsity athlete hazing experiences.

2b. H<sub>1</sub>: Individual level independent variables (e.g., Male, Minoritized, First-Year) and campus level independent variables (e.g., Liberal Arts, Large Public) do predict varsity athlete hazing experiences.

## Research Question Set Three

Building from the typology of hazing outlined by Hoover (1999) and utilizing the spectrum of hazing (Allan, 2015; Allan & Kerschner, 2020), are intimidation and harassment hazing experiences predictive of varsity athletes and all students experiencing violence hazing? Are intimidation hazing experiences predictive of varsity athletes and all students experiencing harassment hazing? What types of behaviors are students and varsity athletes most likely to identify as hazing?

3a. H<sub>0</sub>: Intimidation Hazing and Harassment Hazing do not predict student Violence Hazing experiences.

3a. H<sub>1</sub>: Intimidation Hazing and Harassment Hazing do predict student Violence Hazing experiences.

3b. H<sub>0</sub>: Intimidation Hazing and Harassment Hazing do not predict varsity athlete Violence Hazing experiences.

3b. H<sub>1</sub>: Intimidation Hazing and Harassment Hazing do predict varsity athlete Violence Hazing experiences.

3c. H<sub>0</sub>: Intimidation Hazing does not predict student Harassment Hazing experiences.

3c. H<sub>1</sub>: Intimidation Hazing does predict student Harassment Hazing experiences.

3d. H<sub>0</sub>: Intimidation Hazing does not predict varsity athlete Harassment Hazing experiences.

3d. H<sub>1</sub>: Intimidation Hazing does predict varsity athlete Harassment Hazing experiences.

3e. H<sub>0</sub>: Types of Hazing (i.e., Intimidation Hazing, Harassment Hazing, and Violence Hazing) do not predict Identify Hazing for all students.

3e. H<sub>1</sub>: Types of Hazing (i.e., Intimidation Hazing, Harassment Hazing, and Violence Hazing) do predict Identify Hazing for all students.

3f. H<sub>0</sub>: Types of Hazing (i.e., Intimidation Hazing, Harassment Hazing, and Violence Hazing) do not predict Identify Hazing for varsity athletes.

3f. H<sub>1</sub>: Types of Hazing (i.e., Intimidation Hazing, Harassment Hazing, and Violence Hazing) do predict Identify Hazing for varsity athletes.

### **Summary**

In summary, this study followed a non-experimental, quantitative research design and examined the hazing experiences of varsity athletes and non-athletes across five NCAA Division

III institutions. The purpose of this study was to examine whether or not varsity athletes and non-athletes at these institutions have differing experiences with hazing and explore which individual and campus level variables have the greatest impact on and are predictive of varsity athlete and all student hazing experiences. In this chapter, I have outlined the methods I utilized to appropriately address the research questions guiding this investigation. These research questions were derived from the synthesis of the problem statement and literature review provided in the first two chapters. Specifically, this chapter provides an overview of my (a) procedures, (b) instrumentation, (c) participants and site selection, (d) selection of variables, (e) data analysis, and (f) hypotheses.

The participants and sample for this investigation are representative of institutions within NCAA Division III, capturing much of the institutional diversity. Response rates are higher and completion rates are in alignment with what has been observed in previous studies and researchers such as Fosnacht and colleagues (2017) have documented the minimal chance for samples such as the one presented to be at risk for nonresponse bias. In terms of instrumentation, the modified version of the National Survey of Student Hazing (Allan & Madden, 2008) has established reliability and validity, is well-represented in a review of the literature, and I have shown measures derived from this instrument for the purposes of this investigation (i.e., the Hazing Attitudes and Perceptions Scale) to be reliable and valid. IRB approval was maintained throughout the data collection process and appropriate care was taken to ensure the confidentiality of participating students. I have justified my selection of variables based on extant literature and some variables were removed from consideration based on the assumptions of logistic regression.



Given that this study involves examining factors predictive of the dichotomous outcomes of whether or not all participants and varsity athletes experience hazing and whether or not all participants and varsity athletes experience particular kinds of hazing, logistic regression analysis is an appropriate method of data analysis for this investigation. As previously noted, the dependent variables are all dichotomous, the independent variables are continuous and categorical, the sample size is adequate, and logistic regression is well-established in the literature examining both higher education (Peng et al., 2002) and postsecondary hazing (Campo et al., 2005; Rogers et al., 2012; Waldron, 2015). Peng (2016) and Peng and colleagues (2002) provided an overview of how an educational researcher can assess the soundness of a logistic regression model by examining multiple indicators, a recommendation I followed throughout this investigation and took into consideration to justify the appropriateness of the logistic regression models presented. For my data analyses, I have outlined dependent variables, independent variables across the individual and campus levels, and hypotheses connected to each set of research questions. Though this investigation is not without limitations, which will be discussed in Chapter Five, related to sampling and selection of variables, the proposed design and methods provide a sound approach to examining the outlined research questions and contributing new knowledge to the field.

## CHAPTER FOUR: RESULTS

The purpose of this study, as derived from the synthesis of the problem statement and literature review I provided in the first two chapters, was to examine whether varsity athletes and non-athletes at five NCAA Division III institutions have differing experiences with hazing and explore which individual and campus level variables have the strongest relationship with and are predictive of varsity athlete and all student hazing experiences. In the previous chapter, I outlined and justified the methods I utilized for this non-experimental, quantitative investigation, specifically my (a) procedures, (b) instrumentation, (c) participants and site selection, (d) selection of variables, (e) data analysis, and (f) hypotheses. Furthermore, I illustrated how these data met the necessary assumptions (e.g., absence of multicollinearity, adequate sample size) for me to conduct the types of data analysis (i.e., descriptive statistics, chi-square tests for independence, logistic regression) that inform the results I present throughout this chapter.

I began by utilizing descriptive statistics to summarize the aggregated dataset for all respondents and all varsity athletes across the five participating NCAA Division III campuses. After completing the descriptive statistical analysis, chi-square tests for independence were utilized to examine the relationship between categorical independent variables (e.g., Primary Athlete, Primary Greek, Male, White) and categorical dependent variables (e.g., Hazed, Violence Hazing, Harassment Hazing, Intimidation Hazing). The results from these descriptive statistics and chi-square analyses were used to address the first set of research questions guiding this inquiry, which sought to examine the nature and extent of hazing and whether athlete experiences with hazing differ from their non-athlete peers. Informed by these results, the second and third sets of research questions focused on determining if certain variables across the social ecology are predictive of hazing experiences, if more normalized hazing experiences are

predictive of more rare instances of hazing along the spectrum of hazing, and if certain types of hazing are more likely to be identified as hazing by participants. These questions were analyzed using logistic regression and results are subsequently presented in this chapter.

### **Descriptive Statistics**

Descriptive statistics were utilized to summarize and interpret the data, improving my comprehension and influencing subsequent inferential analyses (Coladarci & Cobb, 2014; McMillian & Schumacher, 2010). Descriptive statistics were initially analyzed for the variables outlined in Table 9 that were not subsequently removed from the investigation. Overall, 27.6% (n=529) of the 1,914 respondents indicated they had experienced at least one behavior meeting the definition of hazing in order to join or maintain membership in their primary organization. Over eight percent (8.6%, n=164) of respondents had experienced violence hazing, 17.2% (n=329) had experienced harassment hazing, and 19.4% (n=371) had experienced intimidation hazing. Over thirty percent of all respondents (31.0%, n=593) were men, 77.8% (n=1,490) were white, and 22.2% (n=424) belonged to minoritized populations. Examining undergraduate year, 24.5% (n=469) of students indicated they were first-year students, 25.4% (n=486) were second-years, 23.6% (n=451) were third-years, and 26.5% (n=508) were fourth-years.

Looking at the primary organization of respondents included in the final aggregated sample, 24.6% (n=470) indicated they were varsity athletes, 12.8% (n=245) were members of social fraternities and sororities, and 62.6% (n=1,199) indicated other types of groups, organizations, or teams (e.g., academic club, faith-based organization, club sport team) were their primary organizations. Almost eight percent (7.9%, n=152) of respondents said that they experienced hazing in high school. The mean score for all respondents on the Hazing Attitudes

and Perceptions scale was 13.21 with a standard deviation of 5.59 and the mean score for the Prevention Activities scale was 2.07 with a standard deviation of 1.13.

### **Primary Organization Descriptive Statistics**

Descriptive statistics were also compiled analyzing variables by primary organization. Overall, a higher percentage of students belonging to fraternities and sororities (41.6%, n=102) and varsity athletic teams (40.9%, n=192) experienced hazing than students belonging to other types of student organizations and teams (19.6%, n=235). This same pattern held for types of hazing, with higher percentages of varsity athletes and Greek life members experiencing violence, harassment, and intimidation hazing. Notably, a higher percentage of varsity athletes (30.4%, n=143) experienced harassment hazing than Greek life members (25.3%, n=62) and a higher percentage of fraternity and sorority members indicated they experienced behaviors classified as intimidation hazing (37.1%, n=91) than varsity athletes (24.7%, n=116). Of the 470 varsity athletes who participated in this investigation, a higher percentage of varsity athletes who did not also belong to Greek letter organizations experienced hazing (41.9%, n=179) than varsity athletes who indicated they also were members in fraternities and sororities (30.2%, n=13). Table 18 outlines descriptive statistics for hazing experiences by primary organization.

**Table 18***Descriptive Statistics for Hazing Experiences by Primary Organization*

Hazing Experience	All Respondents	Varsity Athletes	Greek Life Members	Non-Athlete or Greek Life
Did not experience hazing	1,385 (72.4%)	278 (59.1%)	143 (58.4%)	964 (80.4%)
Experienced hazing	529 (27.6%)	192 (40.9%)	102 (41.6%)	235 (19.6%)
Experienced violence hazing	164 (8.6%)	66 (14.0%)	38 (15.5%)	60 (5.0%)
Experienced harassment hazing	329 (17.2%)	143 (30.4%)	62 (25.3%)	124 (10.3%)
Experienced intimidation hazing	371 (19.4%)	116 (24.7%)	91 (37.1%)	164 (13.7%)
Indicated they were hazed in high school	152 (7.9%)	42 (8.9%)	20 (8.2%)	90 (7.5%)
Total n	1,914	470	245	1,199

Examining scales included in this investigation, across the Hazing Attitudes and Perceptions scale the mean score for varsity athletes (14.79,  $SD=6.21$ ) was higher than their Greek Life (13.30,  $SD=6.14$ ) and non-athlete or Greek life (12.61,  $SD=5.14$ ) peers. Therefore, in aggregate, varsity athletes indicated having attitudes and perceptions that were more supportive of hazing than their peers. Additionally, fraternity and sorority members (2.53,  $SD=0.87$ ) and varsity athletes (2.44,  $SD=1.06$ ) indicated they participated, on average, in more types of prevention activities (e.g., attend an alcohol-free event, do volunteer or community service work together, participate in a ropes course facilitated by a trained professional) than students who did not belong to varsity athletic teams or Greek letter organizations (1.85,  $SD=1.14$ ). Table 19 outlines descriptive statistics for these scales by primary organization.

**Table 19**

*Descriptive Statistics for Mean Hazing Attitudes and Perceptions and Prevention Activities by Primary Organization*

	All Respondents	Varsity Athletes	Greek Life Members	Non-Athlete or Greek Life
Hazing Attitudes and Perceptions	13.21 (5.59)	14.79 (6.21)	13.30 (6.14)	12.61 (5.14)
Prevention Activities	2.07 (1.13)	2.44 (1.06)	2.53 (0.87)	1.85 (1.14)
Total n	1,914	470	245	1,199

### **Demographic Characteristics Descriptive Statistics**

After examining descriptive statistics for variables associated with primary organizations included in the study, I compiled descriptive statistics for demographic variables that were utilized throughout this investigation. Overall, a higher percentage of students who indicated they belonged to minoritized campus populations (e.g., Black, Asian, Hispanic/Latinx, Native American) experienced hazing (31.1%,  $n=132$ ) than white students (26.6%,  $n=397$ ). Notably, while a higher percentage of minoritized students experienced violence hazing (9.0%,  $n=38$ ) and intimidation hazing (23.8%,  $n=101$ ), a higher percentage of white students experienced harassment hazing (17.7%,  $n=263$ ). White students scored higher on the Hazing Attitudes and Perceptions scale (13.32,  $SD=5.68$ ) than their minoritized peers (12.85,  $SD=5.25$ ), meaning minoritized students, in aggregate, had more pro-social attitudes toward and perceptions of hazing. White students also scored higher on the Prevention Activities scale (2.10,  $SD=1.12$ ).

Examining gender, a higher percentage of male students (29.5%,  $n=175$ ) experienced hazing than their counterparts that identified as women, transgender, non-binary, or gender nonconforming (26.8%,  $n=354$ ). Higher percentages of men experienced violence hazing (11.0%,  $n=65$ ) and harassment hazing (20.2%,  $n=120$ ), while the same percentage of respondents experienced intimidation hazing (19.4%), regardless of gender identity. On average, men scored

higher on the Hazing Attitudes and Perceptions scale (14.97,  $SD=6.31$ ), indicating they had less pro-social attitudes and perceptions than their female, transgender, non-binary, and gender nonconforming peers. Female, transgender, non-binary, and gender nonconforming students scored higher on the Prevention Activities scale (2.12,  $SD=1.13$ ). In regard to undergraduate year, 23.2% of first-year students ( $n=109$ ), 27.6% of second-year students ( $n=134$ ), 29.5% of third-year students ( $n=133$ ), and 30.1% of fourth-year students ( $n=153$ ) experienced hazing.

Tables 20 and 21 outline the descriptive statistics for all students by demographic characteristics.

**Table 20**

*Descriptive Statistics for Hazing Experiences for all Respondents by Demographic Characteristics*

Hazing Experience	All Respondents	White Students	Minoritized Students	Male Students	Female and Trans* Students
Did not experience hazing	1,385 (72.4%)	1,093 (73.4%)	292 (68.9%)	418 (70.5%)	967 (73.2%)
Experienced hazing	529 (27.6%)	397 (26.6%)	132 (31.1%)	175 (29.5%)	354 (26.8%)
Experienced violence hazing	164 (8.6%)	126 (8.5%)	38 (9.0%)	65 (11.0%)	99 (7.5%)
Experienced harassment hazing	329 (17.2%)	263 (17.7%)	66 (15.6%)	120 (20.2%)	209 (15.8%)
Experienced intimidation hazing	371 (19.4%)	270 (18.1%)	101 (23.8%)	115 (19.4%)	256 (19.4%)
Total n	1,914	1,490	424	593	1,321

**Table 21**

*Descriptive Statistics for Mean Hazing Attitudes and Perceptions and Prevention Activities for all Respondents by Demographic Characteristics*

	White Students	Minoritized Students	Male Students	Female and Trans* Students
Hazing Attitudes and Perceptions	13.32 (5.68)	12.84 (5.25)	14.97 (6.31)	12.42 (5.04)
Prevention Activities	2.10 (1.12)	1.99 (1.19)	1.97 (1.14)	2.12 (1.13)
Total n	1,490	424	593	1,321

***Varsity Athlete Demographic Characteristics***

Demographic characteristics for the 470 varsity athlete participants were also compiled and considered. Overall, a higher percentage of minoritized athletes (46.6%,  $n=34$ ) experienced hazing than white athletes (39.8%,  $n=158$ ). Furthermore, a higher percentage of minoritized athletes experienced violence hazing (15.1%,  $n=11$ ), harassment hazing (34.2%,  $n=25$ ), and intimidation hazing (32.9%,  $n=24$ ). Minoritized athletes, on average, had less pro-social attitudes and perceptions of hazing, with a higher mean on the Hazing Attitudes and Perceptions scale (15.07,  $SD=5.59$ ) than white athletes (14.74,  $SD=6.32$ ), and scored slightly higher on the Prevention Activities scale. A higher percentage of male varsity athletes indicated they were hazed (44.5%,  $n=89$ ) than female varsity athletes (38.1%,  $n=103$ ) and male varsity athletes experienced violence hazing (16.0%,  $n=32$ ), harassment hazing (36.5%,  $n=73$ ), and intimidation hazing (26.0%,  $n=52$ ) in higher percentages. As with the overall student population, male varsity athletes on average scored higher on the Hazing Attitudes and Perceptions scale (16.37,  $SD=6.68$ ) and lower on the Prevention Activities scale (2.28,  $SD=1.08$ ). Tables 22 and 23 outline the descriptive statistics for varsity athletes by demographic characteristics.



**Table 22**

*Descriptive Statistics for Hazing Experiences for Varsity Athletes by Demographic Characteristics*

Hazing Experience	All Varsity Athletes	White Athletes	Minoritized Athletes	Male Athletes	Female Athletes
Did not experience hazing	278 (59.1%)	239 (60.2%)	39 (53.4%)	111 (55.5%)	167 (61.9%)
Experienced hazing	192 (40.9%)	158 (39.8%)	34 (46.6%)	89 (44.5%)	103 (38.1%)
Experienced violence hazing	66 (14.0%)	55 (13.9%)	11 (15.1%)	32 (16.0%)	34 (12.6%)
Experienced harassment hazing	143 (30.4%)	118 (29.7%)	25 (34.2%)	73 (36.5%)	70 (25.9%)
Experienced intimidation hazing	116 (24.7%)	92 (23.2%)	24 (32.9%)	52 (26.0%)	64 (23.7%)
Total n	470	397	73	200	270

**Table 23**

*Descriptive Statistics for Mean Hazing Attitudes and Perceptions and Prevention Activities for Varsity Athletes by Demographic Characteristics*

	White Athletes	Minoritized Athletes	Male Athletes	Female Athletes
Hazing Attitudes and Perceptions	14.74 (6.32)	15.07 (5.59)	16.37 (6.68)	13.63 (5.57)
Prevention Activities	2.42 (1.05)	2.52 (1.09)	2.28 (1.08)	2.56 (1.02)
Total n	397	73	200	270

### **Institutional Descriptive Statistics**

Lastly, after examining overall descriptive statistics and descriptive statistics relative to primary organizations and participant demographics, I considered the percentage of students experiencing hazing, attitudes and perceptions, and number of types of prevention activities

experienced by respondents across each of the five participating institutions. Overall, a higher percentage of students at the Private Liberal Arts College (40.6%,  $n=82$ ) and Academically Elite Institution A (38.9%,  $n=147$ ) experienced hazing than their peers at Academically Elite Institution B (25.5%,  $n=62$ ), the Mission-Driven Private College (22.5%,  $n=145$ ), or the Large Public University (20.8%,  $n=93$ ). The highest percentage of students at Academically Elite Institution A experienced violence hazing (13.5%,  $n=51$ ) and harassment hazing (29.6%,  $n=112$ ), whereas students at the Private Liberal Arts College experienced the highest percentage of intimidation hazing (35.6%,  $n=72$ ). Students, on average, at Academically Elite Institution A scored higher on the Hazing Attitudes and Perceptions scale (16.32,  $SD=6.32$ ) than students at the other four participating institutions. Students at the Private Liberal Arts College scored highest on the Prevention Activities scale (2.14,  $SD=1.23$ ). Tables 24 and 25 outline the descriptive statistics for all respondents by institution.

**Table 24**

*Descriptive Statistics for Hazing Experiences for all Respondents by Institution*

Hazing Experience	Academic Elite A	Academic Elite B	Mission- Driven	Private Liberal Arts	Large Public
Did not experience hazing	231 (61.1%)	181 (74.5%)	499 (77.5%)	120 (59.4%)	354 (79.2%)
Experienced hazing	147 (38.9%)	62 (25.5%)	145 (22.5%)	82 (40.6%)	93 (20.8%)
Experienced violence hazing	51 (13.5%)	20 (8.2%)	32 (5.0%)	22 (10.9%)	39 (8.7%)
Experienced harassment hazing	112 (29.6%)	44 (18.1%)	84 (13.0%)	36 (17.8%)	53 (11.9%)
Experienced intimidation hazing	85 (22.5%)	37 (15.2%)	106 (16.5%)	72 (35.6%)	71 (15.9%)
Total n	378	243	644	202	447

**Table 25**

*Descriptive Statistics for Mean Hazing Attitudes and Perceptions and Prevention Activities for all Respondents by Institution*

	Academic Elite A	Academic Elite B	Mission- Driven	Private Liberal Arts	Large Public
Hazing Attitudes and Perceptions	16.32 (6.32)	12.40 (4.71)	12.68 (5.24)	12.82 (5.67)	11.97 (4.86)
Prevention Activities	2.19 (1.02)	1.75 (1.04)	1.90 (1.17)	2.14 (1.23)	2.38 (1.09)
Total n	378	243	644	202	447

***Varsity Athlete Institutional Descriptive Statistics***

Many of the results of the descriptive statistical analysis shared previously, which summarized the hazing experiences of all students by institution, are echoed in the descriptive statistical results summarizing the hazing experiences of varsity athletes by institution. Overall percentages and scales for this varsity athlete population, however, were higher and in accordance with the greater percentages of varsity athletes experiencing hazing documented in much of the extant literature (e.g., Allan & Madden, 2008; Allan et al., 2019). For instance, a higher percentage of athletes at Academically Elite Institution A (57.4%, n=78) and the Private Liberal Arts College (46.2%, n=24) experienced hazing than their peers at Academically Elite Institution B (37.8%, n=14), the Mission-Driven Private College (33.7%, n=66), and the Large Public University (20.4%, n=10). Notably, a lower percentage of varsity athletes at the Large Public University experienced hazing than non-athletes. Varsity athletes at Academically Elite Institution A experienced violence hazing (23.5%, n=32) and harassment hazing (47.1%, n=64) in the highest percentages and the highest percentage of athletes experienced intimidation hazing at the Private Liberal Arts College (34.6%, n=18). Athletes at Academically Elite Institution A

had the highest mean scores across the Hazing Attitudes and Perceptions scale (17.70,  $SD=6.90$ ).

Tables 26 and 27 outline the descriptive statistics for varsity athletes by institution.

**Table 26**

*Descriptive Statistics for Hazing Experiences for Varsity Athletes by Institution*

Hazing Experience	Academic Elite A	Academic Elite B	Mission- Driven	Liberal Arts	Large Public
Did not experience hazing	58 (42.6%)	23 (62.2%)	130 (66.3%)	28 (53.8%)	39 (79.6%)
Experienced hazing	78 (57.4%)	14 (37.8%)	66 (33.7%)	24 (46.2%)	10 (20.4%)
Experienced violence hazing	32 (23.5%)	8 (21.6%)	16 (8.2%)	6 (11.5%)	4 (8.2%)
Experienced harassment hazing	64 (47.1%)	14 (37.8%)	44 (22.4%)	13 (25.0%)	8 (16.3%)
Experienced intimidation hazing	40 (29.4%)	11 (29.7%)	41 (20.9%)	18 (34.6%)	6 (12.2%)
Total n	136	37	196	52	49

**Table 27**

*Descriptive Statistics for Mean Hazing Attitudes and Perceptions and Prevention Activities for Varsity Athletes by Institution*

	Academic Elite A	Academic Elite B	Mission- Driven	Private Liberal Arts	Large Public
Hazing Attitudes and Perceptions	17.70 (6.90)	12.84 (4.27)	13.74 (5.59)	14.71 (6.35)	12.49 (4.77)
Prevention Activities	2.52 (0.92)	2.35 (0.92)	2.30 (1.19)	2.42 (1.18)	2.84 (0.62)
Total n	136	37	196	52	49

**Identify Hazing Descriptive Statistics**

As discussed previously in Chapter Three, due to an error in the survey, participants from the Mission-Driven Private College were unable to respond to the question about whether or not

they identified their experiences as hazing. In an effort to best deal with these missing data, separate datasets were created for all students and all varsity athletes (i.e., respondents from the other four participating institutions) that answered the question associated with the dependent variable Identify Hazing. These datasets in total had 1,453 students and 356 varsity athletes. Although 33.0% (n = 484) of students in this dataset experienced behaviors meeting the definition of hazing, only 4.8% (n = 70) identified that they were hazed when asked directly. This gap was even larger for varsity athletes, as 50.8% (n = 181) in the varsity athlete Identify Hazing dataset experienced intimidation, harassment, and/or violence hazing behaviors. When asked directly, however, relatively few varsity athletes (7.6%, n = 27) identified their experiences as hazing.

### **Chi-Square Analyses**

Utilizing descriptive statistics to summarize and interpret the data, I concluded, as in other studies of postsecondary hazing (e.g., Allan & Madden, 2008; Allan et al., 2019), that a higher percentage of varsity athletes and fraternity and sorority members experienced hazing than their peers at the five participating NCAA Division III institutions. In the context of predominantly white overall respondent (77.8%) and varsity athlete demographics (84.5%), it was interesting to note that higher percentages of minoritized students and minoritized athletes experienced hazing than their white peers, despite on average having attitudes and perceptions of hazing that were relatively similar. Higher percentages of men experiencing hazing, institutional differences, and higher Hazing Attitude and Perceptions scale scores across various subpopulations (e.g., varsity athletes, white respondents, men, Academically Elite Institution A) were also noted and used to inform the subsequent chi-square analyses presented throughout this section.

These chi-square analyses examined the relationship between categorical independent variables such as Primary Athlete, Primary Greek, Male, Minoritized, and Institution and categorical dependent variables such as Hazed, Violence Hazing, Harassment Hazing, and Intimidation Hazing. These chi-square analyses, along with the descriptive statistics presented previously, were used to address the first set of research questions examined in this investigation: Do varsity athletes at these Division III campuses have different hazing experiences than their non-athlete peers? What is the nature and extent of these Division III varsity athlete hazing experiences? Are there institutional differences?

### **Primary Organization Chi-Square Analyses**

To begin I conducted chi-square analyses to examine the relationship between the primary organization independent variables Primary Athlete and Primary Greek and the dependent variables Hazed, Violence Hazing, Harassment Hazing, Intimidation Hazing, and Hazed in High School. Results indicated there was a significant relationship between varsity athlete status and the variable hazed, with athletes more likely than their non-athlete peers to experience behaviors meeting the definition of hazing,  $X^2(1, N=1,914) = 54.23, p<.001$ . Similarly, varsity athletes were also significantly more likely than non-athletes to experience violence hazing ( $X^2(1, N=1,914) = 23.83, p<.001$ ), harassment hazing ( $X^2(1, N=1,914) = 76.68, p<.001$ ), and intimidation hazing ( $X^2(1, N=1,914) = 11.19, p<.001$ ). A significant association was not observed between athlete status and whether students indicated that they had experienced hazing in high school,  $X^2(1, N=1,914) = 0.84, p = 0.359$ .

Next, I examined the relationship between Primary Greek and the categorical dependent variables. As with varsity athlete status, there was a significant relationship between social fraternity or sorority member status and the variable hazed, with students belonging to Greek

letter organizations more likely than their non-Greek peers to experience behaviors meeting the definition of hazing,  $X^2(1, N=1,914) = 27.51, p<.001$ . Fraternity and sorority members were significantly more likely than students not belonging to GLOs to experience violence hazing ( $X^2(1, N=1,914) = 17.28, p<.001$ ), harassment hazing ( $X^2(1, N=1,914) = 13.01, p<.001$ ), and intimidation hazing ( $X^2(1, N=1,914) = 56.71, p<.001$ ). There was not a significant association between Primary Greek and whether students experienced hazing in high school,  $X^2(1, N=1,914) = 0.02, p=.890$ . Tables 28 and 29 present the results of the chi-square analyses for Primary Athlete and Primary Greek.

**Table 28***Chi-Square Analyses for Primary Athlete*

	Chi-Square Test Statistic	df	p-value	Effect Size
Hazed	54.38	1	<.001	0.169
Violence Hazing	23.83	1	<.001	0.112
Harassment Hazing	76.68	1	<.001	0.200
Intimidation Hazing	11.19	1	<.001	0.076
Hazed in High School	0.84	1	.359	0.021

**Table 29***Chi-Square Analyses for Primary Greek*

	Chi-Square Test Statistic	df	p-value	Effect Size
Hazed	27.51	1	<.001	0.120
Violence Hazing	17.28	1	<.001	0.095
Harassment Hazing	13.01	1	<.001	0.082
Intimidation Hazing	56.71	1	<.001	0.172
Hazed in High School	0.02	1	.891	0.003

Although the relationship between Primary Athlete and Primary Greek and the dependent variables Hazed, Violence Hazing, Harassment Hazing, and Intimidation Hazing were all found to be statistically significant with p-values less than .001, the effect sizes of these relationships

ranged from 0.076 to 0.200. As noted by Rosnow and Rosenthal (2003) social science research often produces small effect sizes and the magnitude of effect that researchers must observe to establish practical significance is the subject of scholarly debate. Cohen (1992) suggested that 0.100 constituted a small effect, an effect size of approximately 0.300 was a moderate effect, and an effect size greater than 0.500 was a large effect. Ferguson (2009), however, suggested that effect sizes of 0.200 were the recommended minimum effect size representing a “practically” significant effect for social science data.

Given the fact that many of the observed effect sizes for the Primary Athlete and Primary Greek chi-square analyses fall below Ferguson’s (2009) suggested value of 0.200 and my previous finding from the descriptive statistical analysis that both a higher percentage of varsity athletes and fraternity and sorority members experienced hazing, violence hazing, harassment hazing, and intimidation hazing than their peers who belonged to other types of organizations, I created a new variable “Primary Athlete or Primary Greek” to represent all respondents who indicated their primary organization was a varsity athletic team or a fraternity or sorority. Chi-square analyses revealed there was a significant relationship between Primary Athlete or Primary Greek and Hazed ( $X^2(1, N=1,914) = 111.55, p<.001$ ), Violence Hazing ( $X^2(1, N=1,914) = 56.46, p<.001$ ), Harassment Hazing ( $X^2(1, N=1,914) = 109.65, p<.001$ ), and Intimidation Hazing ( $X^2(1, N=1,914) = 70.87, p<.001$ ). As with previous findings, respondents belonging to varsity athletics programs and GLOs were more likely to experience hazing and each subset of hazing than their peers belonging to other types of organizations. Effect sizes for these associations ranged from 0.172 to 0.241 and therefore were more in line with the guidelines put forth by Ferguson and had small to moderate effects as classified by Cohen (1992). Table 30 presents the results of the chi-square analyses for the variable Primary Athlete or Primary Greek.



**Table 30***Chi-Square Analyses for Primary Athlete or Primary Greek*

	Chi-Square Test Statistic	df	p-value	Effect Size
Hazed	111.55	1	<.001	0.241
Violence Hazing	56.46	1	<.001	0.172
Harassment Hazing	109.65	1	<.001	0.239
Intimidation Hazing	70.87	1	<.001	0.192
Hazed in High School	0.92	1	.338	0.022

**Demographic Characteristics Chi-Square Analyses**

Following the chi-square analyses for the independent variables Primary Athlete, Primary Greek, and Primary Athlete or Primary Greek, I examined the relationship between demographic characteristics and the dependent variables Hazed, Violence Hazing, Harassment Hazing, Intimidation Hazing, and Hazed in High School. Based on the descriptive statistics results indicating that a higher percentage of respondents identifying as men experienced hazing than their peers identifying as women, transgender, non-binary, and gender nonconforming, I first examined the relationship between the previously mentioned dependent variables and Male. There was not a statistically significant relationship observed between Male and Hazed ( $X^2(1, N=1,914) = 1.51, p=.220$ ) or Male and Intimidation Hazing ( $X^2(1, N=1,914) = 0.01, p=.994$ ). While there was a statistically significant relationship between Male and Violence Hazing ( $X^2(1, N=1,914) = 6.28, p=.012$ ) and Male and Harassment Hazing ( $X^2(1, N=1,914) = 5.60, p=.018$ ), the effect sizes of these relationships were below the guidelines put forth by Cohen (1992) and Ferguson (2009). Finally, the relationship between Male and Hazed in High School was significant ( $(X^2(1, N=1,914) = 29.89, p<.001)$ ), with male students more likely than their peers to indicate they had experienced hazing in high school, and there was a small effect size observed

(Cohen, 1992). Table 31 presents the results of the chi-square analyses for the variable Male for all respondents.

**Table 31**

*Chi-Square Analyses for Male for all Respondents*

	Chi-Square Test Statistic	df	p-value	Effect Size
Hazed	1.51	1	.220	0.028
Violence Hazing	6.28	1	.012	0.057
Harassment Hazing	5.60	1	.018	0.054
Intimidation Hazing	0.01	1	.994	<0.001
Hazed in High School	29.89	1	<.001	0.125

After concluding the chi-square analyses for the independent variable Male for all respondents, I examined the relationship between the dependent variables and the independent variable Minoritized. After initially coding minoritized students as the reference group and naming the variable White, based on the descriptive statistic finding that a higher percentage of students and athletes belonging to minoritized populations were experiencing hazing, I inverted the coding of the variable and renamed it as Minoritized (i.e., students belonging to minoritized populations were now coded 1 and white students were now the reference category and coded 0) (Tabachnick & Fidell, 2013). Based on my positionality as a critical quantitative researcher, these descriptive statistics were intriguing and I was particularly interested in determining if minoritized students and/or minoritized varsity athletes were significantly more at risk for experiencing hazing or certain types of hazing than their white peers at these predominantly white institutions and in these predominantly white sporting environments.

A significant relationship was not observed between Minoritized and Hazed ( $X^2(1, N=1,914) = 3.32, p=.068$ ), Violence Hazing ( $X^2(1, N=1,914) = 0.11, p=.743$ ), Harassment Hazing ( $X^2(1, N=1,914) = 1.01, p=.315$ ), and Hazed in High School ( $X^2(1, N=1,914) = 0.30$ ,

$p=.587$ ). There was a significant relationship between Minoritized and Intimidation Hazing ( $X^2(1, N=1,914) = 6.86, p=.009$ ), but the observed effect size was 0.060, below the guidelines put forth by Cohen (1992) and Ferguson (2009). Additionally, the creation of a new independent variable representing minoritized male respondents, Minoritized Male ( $n=119$ ), did not yield any statistically significant chi-square associations across the dependent variables. Table 32 presents the results of the chi-square analyses for the variable Minoritized for all respondents.

**Table 32**

*Chi-Square Analyses for Minoritized for all Respondents*

	Chi-Square Test Statistic	df	p-value	Effect Size
Hazed	3.32	1	.068	0.042
Violence Hazing	0.11	1	.743	0.008
Harassment Hazing	1.01	1	.315	0.023
Intimidation Hazing	6.86	1	.009	0.060
Hazed in High School	0.30	1	.587	0.012

*Varsity Athlete Demographic Characteristics Chi-Square Analyses*

After calculating the association between the independent variables Male and Minoritized and the dependent variables Hazed, Violence Hazing, Harassment Hazing, Intimidation Hazing, and Hazed in High School for all respondents, these same associations were examined for the subgroup of varsity athletes participating in this investigation. Between the chi-square analyses for Male and Minoritized the only significant association was between Male and Harassment Hazing,  $X^2(1, N=470) = 6.07 p=.014$ . Amongst varsity athletes, male varsity athletes were significantly more likely to experience harassment hazing than female varsity athletes, though the effect size for this association was small (Cohen, 1992). No other statistically significant associations were found for the independent variables Male, Minoritized, or Minoritized Male

for the varsity athlete sample. Tables 33 and 34 present the results of the chi-square analyses for the variables Male and Minoritized for varsity athlete respondents.

**Table 33**

*Chi-Square Analyses for Male Varsity Athletes*

	Chi-Square Test Statistic	df	p-value	Effect Size
Hazed	1.92	1	.166	0.064
Violence Hazing	1.11	1	.293	0.048
Harassment Hazing	6.07	1	.014	0.114
Intimidation Hazing	0.33	1	.568	0.026
Hazed in High School	1.05	1	.306	0.047

**Table 34**

*Chi-Square Analyses for Minoritized Varsity Athletes*

	Chi-Square Test Statistic	df	p-value	Effect Size
Hazed	1.172	1	.279	0.050
Violence Hazing	0.08	1	.784	0.013
Harassment Hazing	0.60	1	.440	0.036
Intimidation Hazing	3.12	1	.077	0.082
Hazed in High School	0.06	1	.815	0.011

**Institution Chi-Square Analyses**

Finally, after examining the relationship between the independent variables representing primary organizations and demographic characteristics and dependent variables representing student hazing experiences, I examined the relationship between the categorical independent variable Institution (i.e., Academically Elite Institution A, Academically Elite Institution B, Mission-Driven Private College, Large Public University, Private Liberal Arts College) and the dependent variables Hazed, Violence Hazing, Harassment Hazing, Intimidation Hazing, and Hazed in High School for all respondents and all varsity athletes. For all respondents, there was a statistically significant relationship between Institution and Hazed ( $X^2(4, N=1,914) = 60.31$ ,

$p < .001$ ), Violence Hazing ( $X^2(4, N=1,914) = 23.79, p < .001$ ), Harassment Hazing ( $X^2(4, N=1,914) = 68.00, p < .001$ ), Intimidation Hazing ( $X^2(4, N=1,914) = 46.22, p < .001$ ), and Hazed in High School ( $X^2(4, N=1,914) = 13.25, p = .010$ ). For each of these relationships the observed effect sizes were above the 0.100 level classified as small by Cohen (1992), except the relationship between Institution and Hazed in High School which had an effect size of 0.083. A higher percentage of students at Academically Elite Institution A and Private Liberal Arts College experienced hazing than their peers. Students at Academically Elite Institution A experienced higher percentages of violence hazing and harassment hazing and a higher percentage of students at the Private Liberal Arts College experienced intimidation hazing.

The associations between Institution and several of the dependent variables were even stronger for varsity athlete respondents than the associations that were observed for all student respondents. The relationship between Institution and Hazed ( $X^2(4, N=470) = 28.73, p < .001$ ), Violence Hazing ( $X^2(4, N=470) = 19.19, p < .001$ ), and Harassment Hazing ( $X^2(4, N=470) = 29.95, p < .001$ ) was statistically significant with effect sizes larger than the 0.200 guideline suggested by Ferguson (2009). As with the overall student population, a higher percentage of athletes at Academically Elite Institution A and Private Liberal Arts College experienced hazing than their peers. Higher percentages of varsity athletes at Academically Elite Institution A and Academically Elite Institution B, however, experienced violence hazing and a higher percentage of athletes at Academically Elite Institution A experienced harassment hazing. The relationship between Institution and Intimidation Hazing was also found to be statistically significant ( $X^2(4, N=470) = 10.48, p = .033$ ), with a small effect size as outlined by Cohen (1992). A higher percentage of varsity athletes at the Private Liberal Arts College experienced intimidation hazing

than athletes at the other institutions. Tables 35 and 36 present the results of the chi-square analyses for the variable Institution for all student and varsity athlete respondents.

**Table 35**

*Chi-Square Analyses for Institution all Respondents*

	Chi-Square Test Statistic	df	p-value	Effect Size
Hazed	60.31	4	<.001	0.178
Violence Hazing	23.79	4	<.001	0.111
Harassment Hazing	58.00	4	<.001	0.174
Intimidation Hazing	46.22	4	<.001	0.155
Hazed in High School	13.25	4	.010	0.083

**Table 36**

*Chi-Square Analyses for Institution Varsity Athletes*

	Chi-Square Test Statistic	df	p-value	Effect Size
Hazed	28.73	4	<.001	0.247
Violence Hazing	19.19	4	<.001	0.202
Harassment Hazing	29.95	4	<.001	0.252
Intimidation Hazing	10.48	4	.033	0.149
Hazed in High School	3.62	4	.460	0.088

**Summary of Chi-Square Results**

In summary, descriptive statistical analyses illustrated some students were having different hazing experiences than their peers, with higher percentages of certain groups (e.g., varsity athletes, male students, minoritized students) experiencing hazing and/or various types of hazing (i.e., violence hazing, harassment hazing, intimidation hazing). Therefore, I conducted chi-square analyses for all respondents and all varsity athletes, examining the relationship between categorical independent variables related to primary organizations, demographic characteristics, and institutions and categorical dependent variables related to hazing and types of hazing. While the majority of these examined associations were found to be statistically

significant (57.78%,  $n=26$ ) based on an alpha of 0.05, some did not have an observed effect size of 0.100 as recommended by Cohen (1992) and even fewer met the minimum practical effect size for social science research as discussed by Ferguson (2009). Table 37 provides a summary of the chi-square analyses, their significance, and their effect size.

**Table 37**

*Chi-Square Analyses Significance and Effect Size Summary*

	Number of Observations	Percentage of observations
Association not statistically significant ( $p>.05$ )	19	42.22%
Association statistically significant ( $p\leq.05$ ), effect size less than 0.100	7	15.56%
Association statistically significant ( $p\leq.05$ ), effect size greater than 0.100 and less than 0.200	13	28.89%
Association statistically significant ( $p\leq.05$ ), effect size greater than 0.200	6	13.33%
Total	45	100.00%

The strongest associations were observed between the independent variables Institution, Primary Athlete, and Primary Athlete or Greek and the dependent hazing variables. At both the all respondent and varsity athlete levels, the association between the independent demographic variables (i.e., Male, Minoritized) and the dependent hazing variables was often found to be not statistically significant or not have an effect size greater than 0.100 (Cohen, 1992). These results inform the following logistic regression analyses and the findings presented in Chapter Five.

### **Logistic Regression**

Informed by descriptive statistic and chi-square results, I utilized logistic regression to address the second and third sets of research questions guiding this investigation. These questions focused on determining if certain variables across the social ecology are predictive of

both student and varsity athlete hazing experiences and if more frequently occurring hazing experiences along the spectrum of hazing, as conceptualized by Allan (2015) and Allan and Kerschner (2020), are predictive of hazing experiences that occur less frequently and are less normalized. Tabachnick and Fidell (2013) commented on the importance of selecting predictors for logistic regression on the basis of a well-justified, theoretical model.

In addressing the second set of research questions, sequential logistic regression allowed me to develop such a theoretical model and specify the order that predictor variables entered the analysis, capitalizing on the prior research, previous results, and conceptual frameworks informing this investigation. In contrast to direct logistic regression, where all predictors enter the equation simultaneously, sequential logistic regression allowed me to form hypotheses about the order of importance of predictor variables. The intention of sequential logistic regression is to focus the interpretation of results on whether a particular set of variables adds to the logistic regression model's ability to predict the probability of the outcome when there is a theoretical ordering to the variables entered into the model (Tabachnick & Fidell, 2013). As a cross-validation strategy, these sequential logistic regressions examining variables predictive of hazing for all respondents and varsity athletes were compared to a backward stepwise logistic regression, a data-driven approach where all predictor variables are entered at once (Tabachnick & Fidell, 2013). Backward stepwise logistic regression is preferred to forward stepwise logistic regression due to the potential for the suppressor effect, where predictor variables appear to be statistically significant only when other variables are controlled for (Menard, 2010).

### **Sequential Logistic Regression Predicting Hazed for All Students**

The second set of research questions guiding this investigation asked if there were individual and campus level factors that predict student hazing experiences at the five



participating NCAA Division III institutions. To address this question, I conducted a sequential logistic regression for the dependent variable Hazed where predictors were entered into the analysis based on the previous chi-square and descriptive statistic results, other examinations of hazing in postsecondary education, and the conceptual frameworks informing this inquiry. Table 38 provides a description of the four blocks and the independent variables included in each one.

**Table 38**

*Description of Blocks and Independent Variables Included in the Sequential Logistic Regression Analysis for all Students*

Block	Description	Independent Variables
1	Independent variables shown to be significantly associated with Hazed in this investigation	Primary Athlete or Primary Greek, Academic Elite B, Mission-Driven Private, Liberal Arts, Large Public
2	Independent variables related to preventing hazing, not yet examined in this investigation	Hazing Attitudes and Perceptions, Prevention Activities
3	Independent variables shown to have differential descriptive statistics, not statistically significant	Male, Minoritized
4	Remaining independent variables included in this investigation	Hazed in High School, First-Year, Second-Year, Third-Year, Non-Greek Life Athlete

The first block of independent variables entered into the sequential logistic regression included Primary Athlete or Primary Greek, Academic Elite B, Mission-Driven Private, Liberal Arts, and Large Public. These variables were shown in the chi-square analyses to have a significant association with Hazed. The second block of independent variables featured two continuous predictor variables not yet examined in this investigation, Prevention Activities and Hazing Attitudes and Perceptions. Based on my synthesis of the extant research on postsecondary hazing, I theorized that students participating in more types of prevention activities and having more pro-social attitudes and perceptions of hazing (i.e., scoring lower on the Hazing Attitudes and Perceptions Scale) would be less likely to experience hazing. In the

third block, I chose to enter independent variables, Male and Minoritized, that descriptive statistics indicated had different percentages of Hazed, but did not have significant associations in the chi-square analyses. In some studies of postsecondary hazing such as Campo and colleagues (2005) Male has been illustrated to be a statistically significant predictor of hazing and the inclusion of the variable Minoritized is connected to my positionality as a critical quantitative researcher (Stage, 2007). Finally, in the fourth block I entered the remaining independent variables included in this investigation: Hazed in High School, First-Year, Second-Year, Third-Year, and Non-Greek Life Athlete.

Inclusion of the first block of predictors in this sequential logistic regression was found to be statistically significant  $X^2(5)=160.889, p<.001$ , suggesting that the relationship between Hazed and the five predictor variables for all students was statistically significant. The Hosmer and Lemeshow Test ( $X^2(6)=6.270, p=.394$ ) had an observed  $p$  value above .05, suggesting the data fit the model (Hosmer & Lemeshow, 2000; Tabachnick & Fidell, 2013). Analysis of the inclusion of the second block of predictors, with the variables Hazing Attitudes and Perceptions and Prevention Activities, indicated a statistically significant step ( $X^2(2)=54.517, p<.001$ ), overall model ( $X^2(7)=215.406, p<.001$ ), and goodness of fit via the Hosmer and Lemeshow test ( $X^2(8)=14.147, p=.078$ ). Although the overall logistic regression model continued to be statistically significant with the addition of the third block ( $X^2(9)=217.720, p<.001$ ) and fourth block ( $X^2(14)=222.630, p<.001$ ) of predictor variables, adding these predictors did not produce statistically significant steps ( $X^2(2)=2.314, p=.314, X^2(5)=4.910, p=.427$ ). Tabachnick and Fidell (2013) suggest the researcher uses these goodness-of-fit tests to select the logistic regression model that does the best job of prediction with the fewest predictors. Given these guidelines, I

opted to evaluate the logistic regression model including the variables included in the first two blocks of this sequential logistic regression.

A binary logistic regression was conducted to examine whether the seven independent variables (Primary Athlete or Primary Greek, Mission-Driven Private, Academic Elite B, Large Public, Liberal Arts, Hazing Attitudes and Perceptions, and Prevention Activities) included in the first two blocks of the sequential logistic regression had a significant effect on the odds of students experiencing hazing. Given the inclusion of the new variable Primary Athlete or Primary Greek, based on the chi-square analyses, the assumption of the absence of multicollinearity was once again examined. Variance Inflation Factors (VIFs) were below the 5.00 guideline and 10.00 limit, as proposed by Menard (2010). Table 39 provides the VIFs for the variables included in this logistic regression.

**Table 39**

*Variance Inflation Factors (VIFs) for Sequential Logistic Regression Analysis Predicting Hazed for all Students*

Independent Variable	Variance Inflation Factor
Primary Athlete or Primary Greek	1.14
Mission-Driven Private	1.70
Academic Elite B	1.40
Large Public	1.56
Liberal Arts	1.42
Hazing Attitudes and Perceptions	1.08
Prevention Activities	1.12

The model was evaluated based on an alpha of 0.05. The overall model was significant,  $X^2(7)=215.406$ ,  $p<.001$ , suggesting that Primary Athlete or Primary Greek, Mission-Driven Private, Academic Elite B, Large Public, Liberal Arts, Hazing Attitudes and Perceptions, and Prevention Activities had a significant effect on the odds of students experiencing hazing.

Examining goodness-of-fit statistics, the Cox and Snell R-Square was 0.106 and the Nagelkerke R-Square was 0.154. As noted by Hemmert and colleagues (2018), at present researchers have no consensus on a best measure amongst these pseudo-R-square statistics. Although McFadden (1979) recommended pseudo-R-square statistics have values between 0.200 and 0.400 to indicate good fit and above 0.400 to indicate excellent fit, as noted by Hemmert et al. these recommendations cannot always be used to properly evaluate logistic regression models because pseudo-R-square statistics are influenced by large sample sizes ( $n > 200$ ) and an asymmetric distribution of the dependent variable. Given the sample size of this investigation and distribution of the dependent variable hazed, based on a review of literature Hemmert and colleagues recommend Cox and Snell R-Square values fall between .09 and .16 and Nagelkerke R-Square values fall between .15 and .28. Given these guidelines, this logistic regression model fits the data well.

The regression coefficient for Primary Athlete or Primary Greek was significant,  $B = 0.96$ ,  $OR = 2.61$ ,  $p < .001$ , indicating that for a one unit increase in Primary Athlete or Primary Greek (i.e., a student indicating a varsity athletic team or fraternity or sorority was their primary organization), the odds of students experiencing hazing increased by 161%. The regression coefficient for Mission-Driven Private was significant,  $B = -0.62$ ,  $OR = 0.54$ ,  $p < .001$ , indicating that students attending the Mission-Driven Private College were 46% less likely to experience hazing than their peers at other institutions. The regression coefficient for Large Public was significant,  $B = -0.59$ ,  $OR = 0.55$ ,  $p < .001$ , indicating students attending the Large Public University were 45% less likely to experience hazing. The regression coefficient for Hazing Attitudes and Perceptions was significant,  $B = 0.07$ ,  $OR = 1.07$ ,  $p < .001$ , indicating that as respondents moved one unit up the Hazing Attitudes and Perceptions scale (indicating attitudes

and perceptions more supportive of hazing), the odds of experiencing hazing increased by approximately 7%. The regression coefficients for Academic Elite B ( $B = -0.19$ ,  $OR = 0.83$ ,  $p=.328$ ), Liberal Arts ( $B = 0.15$ ,  $OR = 1.16$ ,  $p=.433$ ), and Prevention Activities ( $B = 0.08$ ,  $OR = 1.09$ ,  $p=.115$ ) were not significant, indicating these variables did not have a significant effect on the odds of students experiencing hazing. For the statistically significant predictor variables in this model (i.e., Primary Athlete or Primary Greek, Mission-Driven Private, Large Public, Hazing Attitudes and Perceptions), the observed odds ratios were more extreme (i.e., further away from 1.00 for dichotomous variables and standard deviations of continuous variables) than the corresponding values outlined in the sensitivity analysis, indicating statistical power exceeding 0.80. Table 40 summarizes the results of the regression model.

**Table 40**

*Logistic Regression Results for Sequential Logistic Regression Analysis Predicting Hazed for all Students*

Variable	<i>B</i>	<i>SE</i>	$X^2$	<i>p</i>	<i>OR</i>	95% CI
Constant	-2.17	0.23	89.39	<.001	-	-
Primary Athlete or Primary Greek	0.96	0.12	68.03	<.001	2.61	[2.08, 3.27]
Mission-Driven Private	-0.62	0.15	16.23	<.001	0.54	[0.40, 0.73]
Academic Elite B	-0.19	0.19	0.96	.328	0.83	[0.57, 1.21]
Large Public	-0.59	0.17	12.31	<.001	0.55	[0.40, 0.77]
Liberal Arts	0.15	0.19	0.62	.433	1.16	[0.80, 1.70]
Hazing Attitude and Perceptions	0.07	0.01	51.57	<.001	1.07	[1.05, 1.09]
Prevention Activities	0.08	0.05	2.48	.115	1.09	[0.98, 1.20]

Overall, this logistic regression model successfully predicted whether or not 73.8% of students experienced hazing or did not experience hazing, compared to the null model which successfully predicted 72.4% of respondents. The model correctly predicted 20.6% of students who

experienced hazing (i.e., sensitivity; true positive) and 94.2% of students who did not experience hazing (i.e., specificity; true negative).

***Backwards Stepwise Logistic Regression Predicting Hazed for All Students***

As a data-driven cross-validation strategy for the theory-driven sequential logistic regression, a backwards stepwise logistic regression analysis was conducted with all 14 predictor variables entered at once. The final model was statistically significant ( $X^2(5)=212.932, p<.001$ ) and results of the Hosmer and Lemeshow Test were not statistically significant ( $X^2(8)=10.197, p=.251$ ), indicating goodness of fit. The model included four variables with statistically significant regression coefficients: Hazing Attitudes and Perceptions, Large Public, Primary Athlete or Primary Greek, and Mission-Driven Private, the same four predictor variables that were found to be statistically significant in the sequential logistic regression analysis predicting hazed for all students. The independent variable Prevention Activities was also included in the model, but was not found to be statistically significant. Pseudo-R-squared values were comparable to the values observed in the sequential logistic regression, with a Cox and Snell R-square value of 0.106 and a Nagelkerke R-square value of 0.152. Overall, this model correctly predicted 73.6% of respondents' hazing experiences. Table 41 summarizes the results of the final regression model produced by the backwards stepwise logistic regression.

**Table 41**

*Logistic Regression Results for Backwards Stepwise Logistic Regression Analysis Predicting Hazed for all Students*

Variable	<i>B</i>	<i>SE</i>	$X^2$	<i>p</i>	<i>OR</i>	95% CI
Constant	-2.20	0.19	129.55	<.001	-	-
Mission-Driven Private	-0.61	0.13	23.22	<.001	0.54	[0.42, 0.70]
Primary Athlete or Primary Greek	0.99	0.11	73.88	<.001	2.68	[2.14, 3.35]
Large Public	-0.58	0.15	15.98	<.001	0.56	[0.42, 0.74]
Hazing Attitudes and Perceptions	0.07	0.01	54.75	<.001	1.07	[1.05, 1.09]
Prevention Activities	0.09	0.05	2.74	.098	1.09	[0.98, 1.21]

### **Sequential Logistic Regression Predicting Hazed for Varsity Athletes**

The second set of research questions guiding this investigation also sought to examine if there were individual and campus level factors that predict varsity athlete hazing experiences at the five participating institutions. As with examining factors predictive for the overall student body, I conducted a sequential logistic regression for the dependent variable Hazed where predictors were entered into the analysis based on the previous chi-square and descriptive statistic results, other examinations of hazing in college athletics, and the conceptual frameworks informing this inquiry. Table 42 provides a description of the four blocks and the independent variables included in each one.

**Table 42**

*Description of Blocks and Independent Variables Included in the Sequential Logistic Regression Analysis for Varsity Athletes*

Block	Description	Independent Variables
1	Independent variables shown to be significantly associated with Hazed for varsity athletes in this investigation	Academic Elite B, Mission-Driven Private, Liberal Arts, Large Public
2	Independent variables related to preventing hazing, not yet examined in this investigation	Hazing Attitudes and Perceptions, Prevention Activities
3	Independent variables shown to have differential descriptive statistics, not statistically significant	Male, Minoritized, Non-Greek Life Athlete
4	Remaining independent variables included in this investigation	Hazed in High School, First-Year, Second-Year, Third-Year

The first block of independent variables entered into the sequential logistic regression included Academic Elite B, Mission-Driven Private, Liberal Arts, and Large Public. These variables were shown in the chi-square analyses to have a significant association with Hazed for varsity athletes. The second block of independent variables featured two continuous predictor variables not yet examined in this investigation: Prevention Activities and Hazing Attitudes and Perceptions. Based on my synthesis of the extant research on college athlete hazing, I theorized that varsity athletes participating in more types of prevention activities and having more pro-social attitudes and perceptions of hazing (i.e., scoring lower on the Hazing Attitudes and Perceptions Scale) would be less likely to experience hazing. In the third block, I chose to enter three independent variables, Male, Minoritized, and Non-Greek Life Athlete, that descriptive statistics indicated had different percentages of Hazed, but did not have significant associations in the chi-square analyses. Two of these variables, Male and Non-Greek Life Athlete, have been shown to be predictive of college athlete hazing experiences in other investigations of college athlete hazing (e.g., Hoover, 1999). Finally, in the fourth block I entered the remaining



independent variables included in this investigation: Hazed in High School, First-Year, Second-Year, and Third-Year.

Inclusion of the first block of predictors in this sequential logistic regression was found to be statistically significant  $X^2(4)=29.272, p<.001$ , suggesting that the relationship between Hazed and the four predictor variables for varsity athletes was statistically significant. The Hosmer and Lemeshow Test ( $X^2(3)=0.000, p=1.000$ ) had an observed  $p$  value above .05, suggesting the data fit the model (Hosmer & Lemeshow, 2000; Tabachnick & Fidell, 2013). Analysis of the inclusion of the second block of predictors, with the variables Hazing Attitudes and Perceptions and Prevention Activities, indicated a statistically significant step ( $X^2(2)=9.559, p=.008$ ), overall model ( $X^2(6)=38.830, p<.001$ ), and goodness of fit via the Hosmer and Lemeshow test ( $X^2(8)=15.438, p=.051$ ). Although the overall logistic regression model continued to be statistically significant with the addition of the third block ( $X^2(9)=40.295, p<.001$ ) and fourth block ( $X^2(13)=44.918, p<.001$ ) of predictor variables, adding these predictors did not produce statistically significant steps ( $X^2(3)=1.465, p=.690, X^2(4)=4.623, p=.328$ ). As discussed previously, Tabachnick and Fidell (2013) suggest the researcher uses these goodness-of-fit tests to select the logistic regression model that does the best job of prediction with the fewest predictors. Given these guidelines, I opted to evaluate the logistic regression model including the variables included in the first two blocks of this sequential logistic regression.

A binary logistic regression was conducted to examine whether the six independent variables (Mission-Driven Private, Academic Elite B, Large Public, Liberal Arts, Hazing Attitudes and Perceptions, and Prevention Activities) included in the first two blocks of the sequential logistic regression had a significant effect on the odds of varsity athletes experiencing hazing. The model was evaluated based on an alpha of 0.05. The overall model was significant,

$\chi^2(6)=38.830, p<.001$ , suggesting that Mission-Driven Private, Academic Elite B, Large Public, Liberal Arts, Hazing Attitudes and Perceptions, and Prevention Activities had a significant effect on the odds of varsity athletes experiencing hazing. Examining goodness-of-fit statistics, the Cox and Snell R-Square was 0.079 and the Nagelkerke R-Square was 0.107. Given the sample size of varsity athletes in this investigation and distribution of the dependent variable hazed for varsity athletes, Hemmert and colleagues (2018) recommend Cox and Snell R-Square values fall between .17 and .36 and Nagelkerke R-Square values fall between .25 and .48. Given these guidelines, this logistic regression model weakly fits the data.

The regression coefficient for Mission-Driven Private was significant,  $B = -0.79$ ,  $OR = 0.45$ ,  $p < .001$ , indicating that varsity athletes attending the Mission-Driven Private College were 55% less likely to experience hazing than their peers. Additionally, the regression coefficient for Large Public was significant,  $B = -1.42$ ,  $OR = 0.24$ ,  $p < .001$ , indicating that varsity athletes at the Large Public University were 76% less likely than their peers to experience hazing. Finally, the regression coefficient for Hazing Attitudes and Perceptions was significant,  $B = 0.05$ ,  $OR = 1.05$ ,  $p = .002$ , indicating that for every one unit increase in Hazing Attitudes and Perceptions (i.e., attitudes and perceptions more supportive of hazing), varsity athletes' odds of experiencing hazing increased by approximately 5%. Regression coefficients were not statistically significant for the variables Academic Elite B ( $B = -0.56$ ,  $OR = 0.57$ ,  $p = .150$ ), Liberal Arts ( $B = -0.31$ ,  $OR = 0.73$ ,  $p = .354$ ), or Prevention Activities ( $B = 0.00$ ,  $OR = 1.00$ ,  $p = .985$ ), indicating these variables did not have a significant effect on the odds of varsity athletes experiencing hazing. For the statistically significant predictor variables in this model (i.e., Mission-Driven Private, Large Public, Hazing Attitudes and Perceptions), the observed odds ratios were more extreme (i.e., further away from 1.00 for dichotomous variables and standard deviations of continuous

variables) than the corresponding values outlined in the sensitivity analysis, indicating statistical power exceeding 0.80. Table 43 summarizes the results of the logistic regression model.

**Table 43**

*Logistic Regression Results for Sequential Logistic Regression Analysis Predicting Hazed for Varsity Athletes*

Variable	<i>B</i>	<i>SE</i>	<i>X</i> <sup>2</sup>	<i>p</i>	<i>OR</i>	95% CI
Constant	-0.60	0.41	2.10	.148	-	-
Mission-Driven Private	-0.79	0.24	11.02	<.001	0.45	[0.28, 0.72]
Academic Elite B	-0.56	0.39	2.07	.150	0.57	[0.27, 1.23]
Liberal Arts	-0.31	0.33	0.86	.354	0.73	[0.38, 1.41]
Large Public	-1.42	0.40	12.36	<.001	0.24	[0.11, 0.53]
Prevention Activities	0.00	0.09	0.00	.985	1.00	[0.83, 1.20]
Hazing Attitude and Perceptions	0.05	0.02	9.28	.002	1.05	[1.02, 1.09]

Overall, this logistic regression model successfully predicted whether or not 62.6% of varsity athletes experienced hazing or did not experience hazing, compared to the null model which successfully predicted 59.1% of respondents. The model correctly predicted 37.0% of varsity athletes who experienced hazing (i.e., sensitivity; true positive) and 80.2% of varsity athletes who did not experience hazing (i.e., specificity; true negative).

***Backwards Stepwise Logistic Regression Predicting Hazed for Varsity Athletes***

As a data-driven cross-validation strategy for the theory-driven sequential logistic regression predicting varsity athlete hazing, a backwards stepwise logistic regression analysis was conducted with all 13 predictor variables entered at once. The final model was statistically significant ( $X^2(3)=36.396$ ,  $p<.001$ ) and results of the Hosmer and Lemeshow Test were not statistically significant ( $X^2(8)=9.458$ ,  $p=.305$ ). The model included three variables with statistically significant regression coefficients: Hazing Attitudes and Perceptions, Large Public, and Mission-Driven Private, the same three predictor variables that were found to be statistically

significant in the sequential logistic regression analysis predicting hazed for varsity athletes. Pseudo-R-squared values were comparable to the values observed in the sequential logistic regression, with a Cox and Snell R-square value of 0.075 and a Nagelkerke R-square value of 0.101. Overall, this model correctly predicted 61.1% of varsity athlete hazing experiences. Table 44 summarizes the results of the final regression model produced by the backwards stepwise logistic regression predicting hazing experiences for varsity athletes.

**Table 44**

*Logistic Regression Results for Backwards Stepwise Logistic Regression Analysis Predicting Hazed for Varsity Athletes*

Variable	<i>B</i>	<i>SE</i>	<i>X</i> <sup>2</sup>	<i>p</i>	<i>OR</i>	95% CI
Constant	-0.84	0.29	8.26	.004	-	-
Mission-Driven Private	-0.62	0.21	9.04	.003	0.54	[0.36, 0.81]
Large Public	-1.24	0.38	10.42	.001	0.29	[0.14, 0.61]
Hazing Attitudes and Perceptions	0.06	0.02	11.90	<.001	1.06	[1.02, 1.09]

### **Logistic Regression Analyses Predicting Violence Hazing**

The third set of research questions guiding this investigation sought to examine if more frequently occurring hazing experiences, as conceptualized by Allan (2015) and Allan and Kerschner (2020) with the spectrum of hazing, are predictive of hazing experiences for all students and varsity athletes that occur less frequently and are less normalized. To address these questions, based on the conceptual framework of the spectrum of hazing, I conducted binary logistic regressions for the all students and varsity athlete samples examining the dependent variables Violence Hazing and Harassment Hazing. Predictors entered into these logistic regressions were the more normalized and more frequently occurring types of hazing as classified in the spectrum of hazing (i.e., the predictor variables for Violence Hazing were

Harassment Hazing and Intimidation Hazing and the predictor variable for Harassment Hazing was Intimidation Hazing).

To begin, I conducted a binary logistic regression to examine whether Harassment Hazing and Intimidation Hazing had a significant effect on the odds of all students experiencing Violence Hazing. The model was evaluated based on an alpha of 0.05 and was significant,  $X^2(2)=424.08, p<.001$ , suggesting that the predictor variables Intimidation Hazing and Harassment Hazing had a significant effect on the odds of all students experiencing Violence Hazing. Although the Hosmer and Lemeshow Test for this logistic regression model was statistically significant ( $X^2(2)=8.417, p=.015$ ), Tabachnick and Fidell (2013) commented on the potential for very large sample sizes to lead to findings of statistical significance based off of differences without practical importance. Tabachnick and Fidell recommended the researcher keep both the effect of the sample size and the way the test works in mind when interpreting results. Therefore, I assert that, given the large sample size under consideration and the fact that the Hosmer and Lemeshow Test indicates goodness of fit when it does not find statistical significance, the finding of statistical significance for the Hosmer and Lemeshow Test in this logistic regression analysis does not necessarily mean the model does not fit the data and additional goodness-of-fit statistics should be considered.

Further examining other goodness-of-fit statistics where the impact of sample size can be mitigated, the Cox and Snell R-Square was 0.199 and the Nagelkerke R-Square was 0.449. Given the large sample size ( $n > 200$ ) and the distribution of the dependent variable Violence Hazing, Hemmert and colleagues (2018) suggest values between .09 and .16 and .15 and .28 be used to indicate the minimum values suggesting adequate fit for the Cox and Snell R-Square and

the Nagelkerke R-Square, respectively. Given these guidelines, this logistic regression model fits the data well.

The regression coefficient for Intimidation Hazing was significant,  $B = 1.70$ ,  $OR = 5.50$ ,  $p < .001$ , indicating that for students who experienced intimidation hazing, their odds of experiencing violence hazing were 450% higher than their peers who did not experience intimidation hazing. Furthermore, the regression coefficient for Harassment Hazing was also significant,  $B = 2.81$ ,  $OR = 16.53$ ,  $p < .001$ , indicating that students who experienced harassment hazing had odds of experiencing violence hazing 1553% higher than their peers who did not experience harassment hazing. The observed odds ratios were more extreme (i.e., further away from 1.00) than the corresponding values outlined in the sensitivity analysis, indicating statistical power exceeding 0.80. Table 45 summarizes the results of the regression model predicting Violence Hazing for all students.

**Table 45**

*Logistic Regression Results with Intimidation Hazing and Harassment Hazing Predicting Violence Hazing for all Students*

Variable	<i>B</i>	<i>SE</i>	$X^2$	<i>p</i>	<i>OR</i>	95% CI
Constant	-4.26	0.20	472.29	<.001	-	-
Intimidation Hazing	1.70	0.21	65.38	<.001	5.50	[3.64, 8.31]
Harassment Hazing	2.81	0.22	158.46	<.001	16.53	[10.68, 25.59]

Overall, this logistic regression model successfully predicted whether or not 92.0% of participating students experienced violence hazing or did not experience violence hazing, compared to the null model which successfully predicted 91.4% of respondents. The model correctly predicted 59.1% of students who experienced violence hazing (i.e., sensitivity; true positive) and 95.0% of students who did not experience violence hazing (i.e., specificity; true negative).

*Logistic Regression Analysis Predicting Violence Hazing for Varsity Athletes*

Next, I conducted a binary logistic regression to examine whether Harassment Hazing and Intimidation Hazing had a significant effect on the odds of varsity athletes experiencing Violence Hazing. The model was evaluated based on an alpha of 0.05 and was significant  $\chi^2(2)=108.88, p<.001$ , suggesting that the predictor variables Intimidation Hazing and Harassment Hazing had a significant effect on the odds of varsity athletes experiencing Violence Hazing. Goodness-of-fit indicators suggest this model fits the data well, with a statistically insignificant Hosmer and Lemeshow test ( $\chi^2(2)=1.981, p=.371$ ) and Cox and Snell R-Square (0.207) and Nagelkerke R-Square (0.372) values above what Hemmert and colleagues (2018) suggest, considering the sample size and distribution of the dependent variable Violence Hazing for varsity athletes.

The regression coefficient for Intimidation Hazing was significant,  $B = 1.88$ ,  $OR = 6.57$ ,  $p <.001$ , indicating that for varsity athletes who experienced intimidation hazing, their odds of experiencing violence hazing were 557% higher than their peers who did not experience intimidation hazing. The regression coefficient for Harassment Hazing was also significant,  $B = 1.85$ ,  $OR = 6.33$ ,  $p <.001$ , indicating that varsity athletes who experienced harassment hazing had odds of experiencing violence hazing 533% higher than their peers who did not experience harassment hazing. The observed odds ratios were more extreme (i.e., further away from 1.00) than the corresponding values outlined in the sensitivity analysis, indicating statistical power exceeding 0.80. Table 46 summarizes the results of the regression model predicting Violence Hazing for varsity athletes.

**Table 46**

*Logistic Regression Results with Intimidation Hazing and Harassment Hazing Predicting Violence Hazing for Varsity Athletes*

Variable	<i>B</i>	<i>SE</i>	$X^2$	<i>p</i>	<i>OR</i>	95% CI
Constant	-3.53	0.30	134.97	< .001	-	-
Harassment Hazing	1.85	0.34	29.41	< .001	6.33	[3.25, 12.33]
Intimidation Hazing	1.88	0.33	33.50	< .001	6.57	[3.47, 12.44]

Overall, this logistic regression model successfully predicted whether 86.6% of varsity athletes experienced violence hazing or did not experience violence hazing, compared to the null model which successfully predicted 86.0% of respondents. The model correctly predicted 57.6% of varsity athletes who experienced violence hazing (i.e., sensitivity; true positive) and 91.3% of varsity athletes who did not experience violence hazing (i.e., specificity; true negative).

### **Logistic Regression Analyses Predicting Harassment Hazing**

After examining if Intimidation Hazing and Harassment Hazing were predictive of all students and varsity athletes experiencing Violence Hazing, binary logistic regressions were conducted to determine if Intimidation Hazing was predictive of students and varsity athletes experiencing Harassment Hazing. Based on an alpha of 0.05, the model for all students was significant  $X^2(1)=280.57$ ,  $p<.001$ , suggesting the predictor variable Intimidation Hazing had a significant effect on the odds of students experiencing Harassment Hazing. Goodness-of-fit indicators suggest this model fits the data well, with Cox and Snell R-Square (0.136) and Nagelkerke R-Square (0.227) values in line with the values suggested by Hemmert and colleagues (2018), considering the sample size and skewed distribution of the dependent variable Harassment Hazing. The regression coefficient for Intimidation Hazing was significant,  $B = 2.25$ ,  $OR = 9.49$ ,  $p < .001$ , indicating that students who experienced intimidation hazing had odds of experiencing Harassment Hazing that were 849% higher than their peers. The observed odds



ratio was more extreme (i.e., further away from 1.00) than the corresponding value outlined in the sensitivity analysis, indicating statistical power exceeding 0.80. Table 47 summarizes the results of the logistic regression model predicting Harassment Hazing for all students.

**Table 47**

*Logistic Regression Results with Intimidation Hazing Predicting Harassment Hazing for all Students*

Variable	<i>B</i>	<i>SE</i>	$\chi^2$	<i>p</i>	<i>OR</i>	95% CI
Constant	-2.27	0.09	674.61	< .001	-	-
Intimidation Hazing	2.25	0.14	275.20	< .001	9.49	[7.27, 12.38]

Overall, this logistic regression model did not change the percentage of students correctly predicted to have experienced harassment hazing or to not have experienced harassment hazing, with both this model and the null model correctly predicting 82.8% of respondents.

***Logistic Regression Analyses Predicting Harassment Hazing for Varsity Athletes***

Next, I conducted a binary logistic regression to examine whether Intimidation Hazing was predictive of varsity athletes experiencing Harassment Hazing. Based on an alpha of 0.05, the model for varsity athletes was significant  $\chi^2(1)=72.54, p<.001$ , suggesting the predictor variable Intimidation Hazing had a significant effect on the odds of varsity athletes experiencing Harassment Hazing. Goodness-of-fit indicators suggest this model fits the data well, with Cox and Snell R-Square (0.143) and Nagelkerke R-Square (0.202) values in line with the values suggested by Hemmert and colleagues (2018), considering the sample size and skewed distribution of the dependent variable Harassment Hazing. The regression coefficient for Intimidation Hazing was significant,  $B = 1.93$ ,  $OR = 6.89, p < .001$ , indicating that varsity athletes who experienced intimidation hazing had odds of experiencing Harassment Hazing that were 589% higher than their peers. The observed odds ratio was more extreme (i.e., further away from 1.00) than the corresponding value outlined in the sensitivity analysis, indicating statistical

power exceeding 0.80. Table 48 summarizes the results of the logistic regression model predicting Harassment Hazing for varsity athletes.

**Table 48**

*Logistic Regression Results with Intimidation Hazing Predicting Harassment Hazing for Varsity Athletes*

Variable	<i>B</i>	<i>SE</i>	<i>X</i> <sup>2</sup>	<i>p</i>	<i>OR</i>	95% CI
Constant	-1.40	0.13	110.15	< .001	-	-
Intimidation Hazing	1.93	0.23	68.00	< .001	6.89	[4.35, 10.90]

Overall, this logistic regression model successfully predicted whether or not 76.0% of varsity athletes experienced harassment hazing or did not experience harassment hazing, compared to the null model which successfully predicted 69.6% of respondents. The model correctly predicted 51.0% of varsity athletes who experienced harassment hazing (i.e., sensitivity; true positive) and 86.9% of varsity athletes who did not experience harassment hazing (i.e., specificity; true negative).

### **Logistic Regression Analyses Predicting Identify Hazing**

The third set of research questions guiding this investigation also sought to examine which types of hazing experiences are predictive of all students and varsity athletes identifying they were hazed. As theorized by Allan (2015) and Allan and Kerschner (2020) with the spectrum of hazing, individuals that experienced less normalized and more infrequently occurring forms of hazing (i.e., violence hazing behaviors and harassment hazing behaviors) would be more likely to recognize their experience as hazing than individuals that experienced more normalized and frequently occurring form of hazing (i.e., intimidation hazing behaviors). To address this, I conducted binary logistic regression analyses with Intimidation Hazing, Harassment Hazing, and Violence Hazing as predictors for the student and varsity athlete samples associated with the dependent variable Identify Hazing outlined in Chapter Three. Given

the inclusion of the variable Violence Hazing as a predictor variable for the first time in this investigation, the assumption of the absence of multicollinearity was examined to ensure the requirements of logistic regression were met. Variance Inflation Factors (VIFs) were below the 5.00 guideline and 10.00 limit, as proposed by Menard (2010). Table 49 provides the VIFs for the variables included in these logistic regressions.

**Table 49**

*Variance Inflation Factors (VIFs) for Binary Logistic Regression Analyses Predicting Identify Hazing for Students and Varsity Athletes*

Independent Variable	Variance Inflation Factor
Intimidation Hazing	1.07
Harassment Hazing	1.12
Violence Hazing	1.11

Based on an alpha of 0.05, the model for all students was significant  $X^2(3)=246.41$ ,  $p<.001$ , suggesting the predictor variables Intimidation Hazing, Harassment Hazing, and Violence Hazing had a significant effect on the odds of students identifying that they were hazed. Goodness-of-fit indicators suggest this model fits the data well, with a statistically insignificant Hosmer and Lemeshow test ( $X^2(2)=0.448$ ,  $p=.799$ ) and Cox and Snell R-Square (0.156) and Nagelkerke R-Square (0.487) values exceeding the values suggested by Hemmert and colleagues (2018), considering the sample size and skewed distribution of the dependent variable Identify Hazing. The regression coefficient for Intimidation Hazing was significant,  $B = 1.90$ ,  $OR = 6.69$ ,  $p <.001$ , indicating that students who experienced intimidation hazing had their odds of recognizing they were hazed increased by 569% compared to their peers who did not experience intimidation hazing behaviors. The regression coefficients for Harassment Hazing ( $B = 2.39$ ,  $OR = 10.94$ ,  $p <.001$ ) and Violence Hazing ( $B = 1.68$ ,  $OR = 5.36$ ,  $p <.001$ ) were also significant, indicating students who experienced harassment hazing had their odds of recognizing they were

hazed increased by 994% and students who experienced violence hazing had their odds of recognizing they were hazed increased by 436%, compared to their peers. The observed odds ratios were more extreme (i.e., further away from 1.00) than the corresponding values outlined in the sensitivity analysis, indicating statistical power exceeding 0.80. Table 50 summarizes the results of the logistic regression model predicting Identify Hazing for all students.

**Table 50**

*Logistic Regression Results Predicting Identify Hazing for all Students*

Variable	<i>B</i>	<i>SE</i>	$X^2$	<i>p</i>	<i>OR</i>	95% CI
Constant	-6.06	0.48	161.91	< .001	-	-
Harassment Hazing	2.39	0.47	26.01	< .001	10.94	[4.36, 27.44]
Intimidation Hazing	1.90	0.39	23.21	< .001	6.69	[3.09, 14.49]
Violence Hazing	1.68	0.32	27.38	< .001	5.36	[2.86, 10.06]

Overall, this logistic regression model did not change the percentage of students correctly predicted to have identified they were hazed, with both this model and the null model correctly predicting 95.2% of respondents.

*Logistic Regression Analyses Predicting Identify Hazing for Varsity Athletes*

Finally, I conducted a binary logistic regression analysis with Intimidation Hazing, Harassment Hazing, and Violence Hazing as predictors for the varsity athlete sample associated with the dependent variable Identify Hazing. Based on an alpha of 0.05, the model for varsity athletes was significant  $X^2(3)=51.77, p<.001$ , suggesting the predictor variables Intimidation Hazing, Harassment Hazing, and Violence Hazing had a significant effect on the odds of students identifying that they were hazed. Goodness-of-fit indicators suggest this model fits the data well, with a statistically insignificant Hosmer and Lemeshow test ( $X^2(2)=0.858, p=.836$ ) and Cox and Snell R-Square (0.135) and Nagelkerke R-Square (0.326) values meeting or exceeding the values suggested by Hemmert and colleagues (2018), considering the varsity athlete sample

size and skewed distribution of the dependent variable Identify Hazing. The regression coefficient for Violence Hazing was significant,  $B = 1.53$ ,  $OR = 4.61$ ,  $p = .002$ , indicating that varsity athletes who experienced violence hazing had their odds of recognizing they were hazed increased by 361% compared to their peers who did not experience violence hazing behaviors. The regression coefficient for Harassment Hazing was also significant,  $B = 1.88$ ,  $OR = 6.56$ ,  $p = .004$ , indicating that varsity athletes who experienced harassment hazing had their odds of recognizing they were hazed increased by 556% compared to their peers who did not experience harassment hazing. The regression coefficient for Intimidation Hazing was not significant, indicating that intimidation hazing did not have a significant effect on the odds of varsity athletes identifying they experienced hazing. For the statistically significant predictor variables, the observed odds ratios were more extreme (i.e., further away from 1.00) than the corresponding values outlined in the sensitivity analysis, indicating statistical power exceeding 0.80. Table 51 summarizes the results of the logistic regression model predicting Identify Hazing for varsity athletes.

**Table 51**

*Logistic Regression Results Predicting Identify Hazing for Varsity Athletes*

Variable	<i>B</i>	<i>SE</i>	<i>X</i> <sup>2</sup>	<i>p</i>	<i>OR</i>	95% CI
Constant	-4.80	0.63	57.54	< .001	-	-
Violence Hazing	1.53	0.48	10.02	.002	4.61	[1.79, 11.86]
Harassment Hazing	1.88	0.66	8.14	.004	6.56	[1.80, 23.90]
Intimidation Hazing	0.94	0.51	3.38	.066	2.56	[0.94, 6.99]

Overall, this logistic regression model did not change the percentage of varsity athletes correctly predicted to have identified they were hazed, with both this model and the null model correctly predicting 92.4% of respondents.

## Summary

In summary, in order to fully address the three sets of research questions guiding this investigation, I conducted descriptive statistic, chi-square, and logistic regression analyses, the results of which I have presented throughout the preceding chapter. I began by utilizing descriptive statistics to summarize and interpret the datasets for all students and all varsity athletes across the five participating institutions. These descriptive statistics were presented in aggregate for all respondents and were also further detailed by primary organization (i.e., Primary Athlete, Primary Greek, Non-Athlete or Greek Life), demographic characteristics (i.e., Male, Minoritized), and institution (i.e., Academic Elite A, Academic Elite B, Mission-Driven Private, Large Public, Liberal Arts), describing the hazing experiences, attitudes and perceptions, and prevention activities of these subgroups of students and varsity athletes. Descriptive statistics illustrated some students were having different hazing experiences than their peers, with higher percentages of certain groups (e.g., varsity athletes, fraternity and sorority members, minoritized students) experiencing hazing and/or various types of hazing (i.e., violence hazing, harassment hazing, intimidation hazing).

Building from the results of these descriptive statistics, I subsequently conducted chi-square analyses for all respondents and all varsity athletes, examining the relationship between categorical independent variables related to primary organizations, demographic characteristics, and institutions and categorical dependent variables related to hazing and types of hazing. In total, I conducted 45 chi-square analyses for this investigation. While the majority of these examined associations were found to be statistically significant ( $n=26$ , 57.78%) based on an alpha of 0.05, some of these associations ( $n=7$ , 15.56%) did not have an observed effect size of 0.100 as recommended by Cohen (1992). Furthermore, many of the associations ( $n=13$ , 28.89%)

had an observed effect size greater than 0.100, but less than the 0.200 standard Ferguson (2009) suggested as the minimum practical effect size for social science research. The strongest associations, those that exceeded the 0.200 effect size standard ( $n=6$ , 13.33%), were observed between the independent variables Institution, Primary Athlete, and Primary Athlete or Primary Greek and the dependent hazing variables.

Finally, informed by these descriptive statistic and chi-square results, I utilized logistic regression to address the second and third sets of research questions guiding this investigation. Following criteria outlined by Tabachnick and Fidell (2013), Peng (2016), and Peng and colleagues (2002), I selected simplified logistic regression models and used several indicators to assess the degree to which these models fit the data, examining: (a) the overall model evaluation; (b) statistical tests of individual predictors; (c) goodness-of-fit statistics (i.e., the Hosmer-Lemeshow test and the Cox and Snell and Nagelkerke R-squared indices); and (d) validations of estimated probabilities. Sensitivity analyses were utilized to ensure adequate statistical power of predictor variables found to be statistically significant.

Given the importance of selecting predictors on the basis of a well-justified theoretical model, I conducted sequential logistic regression analyses to address the second set of research questions and binary logistic regression analyses informed by the spectrum of hazing to address the third set of research questions (Tabachnick & Fidell, 2013). The sequential logistic regression analyses allowed me to develop a theoretical model and specify the order that predictor variables entered the analysis, capitalizing on the prior research, previous results, and conceptual frameworks informing this investigation. As a cross-validation strategy, these sequential logistic regressions examining variables predictive of hazing for all respondents and varsity athletes were compared to backward stepwise logistic regressions. Both the sequential

and backward stepwise logistic regression analyses arrived at similar results and produced the same statistically significant predictor variables.

Overall, the guidelines outlined by Tabachnick and Fidell (2013), Peng (2016), and Peng and colleagues (2002) suggest the results of these sequential and binary logistic regression analyses fit the data well, as the models were found to be statistically significant overall, have statistically significant predictor variables, adequate goodness-of-fit statistics, and, at times, improve the ability to predict a binary outcome in comparison to the null model. The only potential exception is the resulting model of the sequential logistic regression analysis predicting Hazed for varsity athletes, which had Cox and Snell and Nagelkerke R-squared indices below the values outlined by Hemmert and colleagues (2018), suggesting the model weakly fit the data. In the following chapter, these logistic regression results, along with the results of the chi-square analyses, are interpreted as key findings relative to the hypotheses associated with the sets of research questions guiding this investigation. Descriptive statistics and results of inferential statistical analyses are subsequently discussed. In this discussion, connections are drawn to the extant literature focused on college athlete hazing, new knowledge produced by this investigation is highlighted, and limitations of this investigation are acknowledged. Following this discussion, implications for practice and prevention and implications for future research are developed.



## **CHAPTER FIVE: KEY FINDINGS, DISCUSSION, AND IMPLICATIONS**

In the previous chapter I presented the complete results of the descriptive statistic, chi-square, and logistic regression analyses. These statistical analyses were conducted in order to address the three sets of research questions guiding this investigation and their associated hypotheses. I begin this chapter by interpreting and summarizing the results of the inferential statistical analyses (i.e., the chi-square and logistic regression analyses) as key findings relative to the hypotheses associated with each set of research questions. Following this presentation of key findings, descriptive statistics and the results of inferential statistical analyses are discussed with connections drawn to previous scholarship examining college athlete hazing and new knowledge produced by this investigation highlighted. Limitations of this study are also acknowledged in this discussion. Finally, implications for prevention, practice, and future research are presented.

### **Key Findings**

In Chapter Four, I detailed the results of several inferential statistical analyses, specifically chi-square analyses, sequential logistic regression analyses, backwards stepwise logistic regression analyses, and binary logistic regression analyses. Inferential statistics, along with descriptive statistics summarizing the dataset for all students and varsity athletes, were utilized to address the research questions guiding this investigation. These research questions sought to explore the nature and extent of varsity athlete hazing and all student hazing at five NCAA Division III institutions, whether athlete experiences with hazing differ from their non-athlete peers, if certain variables across the social ecology are predictive of hazing experiences, if more normalized hazing experiences are predictive of more rare instances of hazing, and if certain types of hazing are more likely to be identified as hazing by students and varsity athletes.

In this section, I outline the hypotheses I connected to each set of research questions and utilize inferential statistic results to address them, developing, summarizing, and sharing key findings.

### **Research Question Set One**

The first set of research questions guiding this study sought to examine if varsity athletes at the five participating NCAA Division III campuses had different hazing experiences than their non-athlete peers, the nature and extent of these Division III athlete hazing experiences, and whether there were institutional differences. While these research questions were examined utilizing both descriptive statistics and chi-square analyses, I have opted to use chi-square analyses to address the hypotheses associated with this set of questions and develop findings derived from the descriptive statistics in the discussion section of this chapter. Hypotheses for these research questions are subsequently detailed.

#### ***Research Question Set One Hypotheses***

- 1a.  $H_0$ : Across all participants there is not a statistically significant relationship between categorical independent variables such as Primary Athlete, Primary Greek, Minoritized, Male, and Institution and categorical dependent variables such as Hazed, Violence Hazing, Harassment Hazing, Intimidation Hazing, and Hazed in High School.
- 1a.  $H_1$ : Across all participants there is a statistically significant relationship between categorical independent variables such as Primary Athlete, Primary Greek, Minoritized, Male, and Institution and categorical dependent variables such as Hazed, Violence Hazing, Harassment Hazing, Intimidation Hazing, and Hazed in High School.
- 1b.  $H_0$ : Across varsity athletes there is not a statistically significant relationship between categorical independent variables such as Minoritized, Male, and Institution and

categorical dependent variables such as Hazed, Violence Hazing, Harassment Hazing, Intimidation Hazing, and Hazed in High School.

1b. H<sub>1</sub>: Across varsity athletes there is a statistically significant relationship between categorical independent variables such as Minoritized, Male, and Institution and categorical dependent variables such as Hazed, Violence Hazing, Harassment Hazing, Intimidation Hazing, and Hazed in High School.

### ***Research Question Set One Key Findings***

As discussed previously, although the majority of the chi-square analyses were found to be statistically significant based on an alpha of 0.05 ( $n=26$ , 57.78%), some of these associations ( $n=7$ , 15.56%) did not have an observed effect size of 0.100 as recommended by Cohen (1992). Many more ( $n=13$ , 28.89%) had an effect size above 0.100 but below the 0.200 value characterized by Ferguson (2009) as the minimum practical effect size for social science research. Only six associations (13.33%) of the 45 chi-square analyses conducted for this investigation were found to be statistically significant with effect sizes above 0.200. These six statistically significant associations with effect sizes greater than or equal to 0.200 have been prioritized in developing the key findings for this set of research questions.

Examining research question 1a, the chi-square analyses presented in Chapter Four suggest there is a statistically significant association between Primary Athlete and Harassment Hazing ( $X^2(1, N=1,914) = 76.68, p<.001$ ), Primary Athlete or Primary Greek and Hazed ( $X^2(1, N=1,914) = 111.55, p<.001$ ), and Primary Athlete or Primary Greek and Harassment Hazing ( $X^2(1, N=1,914) = 109.65, p<.001$ ). Varsity athletes were more likely than their peers belonging to other types of organizations to experience hazing behaviors classified as harassment hazing (e.g., attend a skit night or roast where other members are humiliated, participate in a drinking

game, wear clothing that is embarrassing and not part of a uniform). Over thirty percent (30.4%) of varsity athletes in this investigation experienced harassment hazing, compared to 12.9% of students involved in other types of groups. Similarly, varsity athletes and fraternity and sorority members (28.7%) experienced higher levels of harassment hazing than non-athlete or GLO members (10.3%). A higher percentage of varsity athletes and fraternity and sorority members (41.1%) experienced hazing than non-athlete or GLO members (19.6%). Based on these findings, I reject the null hypothesis and conclude that in this investigation across all participants there is a statistically significant relationship between categorical independent variables such as Primary Athlete and Primary Athlete or Primary Greek and categorical dependent variables such as Hazed and Harassment Hazing.

Moving to research question 1b, the chi-square analyses presented previously suggest for the varsity athlete dataset there is a significant association between Institution and Hazed ( $X^2(4, N=470) = 28.73, p < .001$ ), Institution and Violence Hazing ( $X^2(4, N=470) = 19.19, p < .001$ ), and Institution and Harassment Hazing ( $X^2(4, N=470) = 29.95, p < .001$ ). A higher percentage of varsity athletes at Academically Elite Institution A (57.4%) and Private Liberal Arts College (46.2%) experienced hazing than their peers at other institutions. Higher percentages of varsity athletes at Academically Elite Institution A (23.5%) and Academically Elite Institution B (21.6%), however, experienced violence hazing and a higher percentage of athletes at Academically Elite Institution A (47.1%) experienced harassment hazing. Based on these findings, I reject the null hypothesis and conclude that in this investigation, across varsity athletes, there is a statistically significant relationship between the categorical independent variable Institution and the categorical dependent variables Hazed, Violence Hazing, and Harassment Hazing.

## **Research Question Set Two**

The second set of research questions guiding this investigation sought to examine if, across levels of the social ecology, there are individual and campus level factors that predict student and varsity athlete hazing experiences at these NCAA Division III institutions. As described previously, these research questions were examined utilizing sequential logistic regression analyses and cross-validated via backward stepwise logistic regression analyses. Key findings presented in this section are derived from the sequential logistic regression analyses. Hypotheses for these research questions are subsequently detailed.

### ***Research Question Set Two Hypotheses***

2a. H<sub>0</sub>: Individual level independent variables (e.g., Male, Minoritized, First-Year) and/or campus level independent variables (e.g., Liberal Arts, Large Public) do not predict student hazing experiences.

2a. H<sub>1</sub>: Individual level independent variables (e.g., Male, Minoritized, First-Year) and/or campus level independent variables (e.g., Liberal Arts, Large Public) do predict student hazing experiences.

2b. H<sub>0</sub>: Individual level independent variables (e.g., Male, Minoritized, First-Year) and/or campus level independent variables (e.g., Liberal Arts, Large Public) do not predict varsity athlete hazing experiences.

2b. H<sub>1</sub>: Individual level independent variables (e.g., Male, Minoritized, First-Year) and/or campus level independent variables (e.g., Liberal Arts, Large Public) do predict varsity athlete hazing experiences.

### ***Research Question Set Two Key Findings***

Examining research question 2a, results of the sequential logistic regression predicting hazed for all students indicated there were individual level variables that significantly predicted student hazing experiences. Primary Athlete or Primary Greek was a significant predictor,  $B = 0.96$ ,  $OR = 2.61$ ,  $p < .001$ , meaning that students belonging to varsity athletic teams, fraternities, or sororities had odds of experiencing hazing 161% greater than their peers belonging to other types of campus organizations. Additionally, Hazing Attitudes and Perceptions was a significant individual level predictor,  $B = 0.07$ ,  $OR = 1.07$ ,  $p < .001$ . As students moved one unit up the Hazing Attitudes and Perceptions scale, indicating they held attitudes and perceptions more supportive of hazing, their odds of experiencing hazing increased by approximately 7%. At the campus level, the dummy variables Mission-Driven Private,  $B = -0.62$ ,  $OR = 0.54$ ,  $p < .001$ , and Large Public,  $B = -0.59$ ,  $OR = 0.55$ ,  $p < .001$ , were statistically significant, with students attending these institutions having odds of experiencing hazing 46% and 45% lower than their peers at other institutions. Other individual level (e.g., Male, Minoritized, Prevention Activities) and campus level (e.g., Academic Elite B, Liberal Arts) variables were not found to be statistically significant predictors of Hazed for all students. Based on these findings, I reject the null hypothesis and conclude that in this investigation individual level independent variables (i.e., Primary Athlete or Primary Greek, Hazing Attitudes and Perceptions) and campus level independent variables (i.e., Mission-Driven Private, Large Public) do predict student hazing experiences.

Moving to research question 2b, results of the sequential logistic regression predicting hazed for varsity athletes indicated there were individual level and campus level variables that significantly predicted varsity athlete hazing experiences. At the individual level, as with all

students, Hazing Attitudes and Perceptions was a significant predictor,  $B = 0.05$ ,  $OR = 1.05$ ,  $p = .002$ . As varsity athletes moved one unit up the Hazing Attitudes and Perceptions scale, indicating they held attitudes and perceptions more supportive of hazing, their odds of experiencing hazing increased by approximately 5%. At the campus level, the dummy variables Mission-Driven Private,  $B = -0.79$ ,  $OR = 0.45$ ,  $p < .001$ , and Large Public,  $B = -1.42$ ,  $OR = 0.24$ ,  $p < .001$ , were statistically significant, with varsity athletes at these institutions having odds of experiencing hazing 55% and 76% lower than their peers. Other individual level (e.g., Male, Minoritized, Non-Greek Life Athlete) and campus level (e.g., Academic Elite B, Liberal Arts) variables were not found to be statistically significant predictors of Hazed for varsity athletes. Based on these findings, I reject the null hypothesis and conclude that in this investigation individual level (i.e., Hazing Attitudes and Perceptions) and campus level (i.e., Mission-Driven Private, Large Public) independent variables do predict varsity athlete hazing experiences.

### **Research Question Set Three**

Building from the typology of hazing outlined by Hoover (1999) and utilizing the spectrum of hazing (Allan, 2015; Allan & Kerschner, 2020), the third set of research questions guiding this investigation sought to determine if, for varsity athletes and all students at these five NCAA Division III institutions, intimidation and harassment hazing experiences are predictive of experiencing violence hazing and if intimidation hazing experiences are predictive of experiencing harassment hazing. Additionally, this set of research questions examined what types of behaviors varsity athletes and students are most likely to identify as hazing. These research questions were examined with binary logistic regression analyses. Hypotheses for these research questions are subsequently detailed.

***Research Question Set Three Hypotheses***

3a. H<sub>0</sub>: Intimidation Hazing and Harassment Hazing do not predict student Violence Hazing experiences.

3a. H<sub>1</sub>: Intimidation Hazing and Harassment Hazing do predict student Violence Hazing experiences.

3b. H<sub>0</sub>: Intimidation Hazing and Harassment Hazing do not predict varsity athlete Violence Hazing experiences.

3b. H<sub>1</sub>: Intimidation Hazing and Harassment Hazing do predict varsity athlete Violence Hazing experiences.

3c. H<sub>0</sub>: Intimidation Hazing does not predict student Harassment Hazing experiences.

3c. H<sub>1</sub>: Intimidation Hazing does predict student Harassment Hazing experiences.

3d. H<sub>0</sub>: Intimidation Hazing does not predict varsity athlete Harassment Hazing experiences.

3d. H<sub>1</sub>: Intimidation Hazing does predict varsity athlete Harassment Hazing experiences.

3e. H<sub>0</sub>: Types of Hazing (i.e., Intimidation Hazing, Harassment Hazing, and Violence Hazing) do not predict Identify Hazing for all students.

3e. H<sub>1</sub>: Types of Hazing (i.e., Intimidation Hazing, Harassment Hazing, and Violence Hazing) do predict Identify Hazing for all students.

3f. H<sub>0</sub>: Types of Hazing (i.e., Intimidation Hazing, Harassment Hazing, and Violence Hazing) do not predict Identify Hazing for varsity athletes.

3f. H<sub>1</sub>: Types of Hazing (i.e., Intimidation Hazing, Harassment Hazing, and Violence Hazing) do predict Identify Hazing for varsity athletes.



### ***Research Question Set Three Key Findings***

Examining research question 3a, results of the logistic regression analysis predicting Violence Hazing for all students indicated Intimidation Hazing and Harassment Hazing do predict Violence Hazing experiences. For all students, Intimidation Hazing,  $B = 1.70$ ,  $OR = 5.50$ ,  $p < .001$ , and Harassment Hazing,  $B = 2.81$ ,  $OR = 16.53$ ,  $p < .001$ , were significant predictors of students experiencing Violence Hazing. Students who experienced intimidation hazing behaviors (e.g., associating with specific people and not others, acting as a personal servant to other members, being deprived of sleep) had odds of experiencing violence hazing behaviors (e.g., drinking large amounts of an alcoholic beverage; drinking or eating gross stuff; being whipped, kicked, or beaten) 450% higher than their peers who did not experience intimidation hazing. Students who experienced harassment hazing behaviors (e.g., attend a skit night or roast where other members are humiliated, participate in a drinking game, wear clothing that is embarrassing and not part of a uniform) had odds of experiencing violence hazing behaviors 1,553% higher than their peers who did not experience harassment hazing. Based on these findings, I reject the null hypothesis and conclude that Intimidation Hazing and Harassment Hazing do predict student Violence Hazing experiences.

In regard to research question 3b, results of the logistic regression analysis predicting Violence Hazing for varsity athletes indicated Intimidation Hazing and Harassment Hazing do predict Violence Hazing experiences. For varsity athletes, Intimidation Hazing,  $B = 1.88$ ,  $OR = 6.57$ ,  $p < .001$ , and Harassment Hazing,  $B = 1.85$ ,  $OR = 6.33$ ,  $p < .001$ , were significant predictors of Violence Hazing. Varsity athletes who experienced intimidation hazing behaviors had odds 557% higher and those that experienced harassment hazing had odds 533% higher than their peers who did not experience those hazing behaviors of experiencing violence hazing. Based on

these findings, I reject the null hypothesis and conclude that Intimidation Hazing and Harassment Hazing do predict varsity athlete Violence Hazing experiences.

Examining research questions 3c and 3d, results of the logistic regression analyses predicting Harassment Hazing for all students and varsity athletes indicated Intimidation Hazing does predict Harassment Hazing experiences for these populations. For all students Intimidation Hazing,  $B = 2.25$ ,  $OR = 9.49$ ,  $p < .001$ , was a significant predictor, indicating that students who experienced intimidation hazing behaviors had odds of experiencing harassment hazing behaviors that were 849% higher than their peers. Additionally, for varsity athletes Intimidation Hazing,  $B = 1.93$ ,  $OR = 6.89$ ,  $p < .001$ , was also a significant predictor. Varsity athletes who indicated they experienced intimidation hazing behaviors had odds of experiencing harassment hazing behaviors 589% higher than their peers. Based on these findings, I reject the null hypotheses associated with these research questions and conclude that Intimidation Hazing does predict student and varsity athlete Harassment Hazing experiences.

Finally, research questions 3e and 3f examined if student and varsity athlete experiences with types of hazing (i.e., Intimidation Hazing, Harassment Hazing, and Violence Hazing) were predictive of these populations identifying they experienced hazing. Results of the logistic regression analyses predicting Identify Hazing for all students and varsity athletes suggests types of hazing experiences do predict students and varsity athletes identifying they were hazed. For all students Intimidation Hazing ( $B = 1.90$ ,  $OR = 6.69$ ,  $p < .001$ ), Harassment Hazing ( $B = 2.39$ ,  $OR = 10.94$ ,  $p < .001$ ), and Violence Hazing ( $B = 1.68$ ,  $OR = 5.36$ ,  $p < .001$ ) were statistically significant predictors of Identify Hazing. Students who experienced intimidation hazing behaviors had odds 569% greater, those that experienced harassment hazing had odds 994% greater, and those that experienced violence hazing behaviors had odds 436% greater of

recognizing they experienced hazing than their peers who did not experience these behaviors. For varsity athletes Harassment Hazing ( $B = 1.88$ ,  $OR = 6.56$ ,  $p = .004$ ) and Violence Hazing ( $B = 1.53$ ,  $OR = 4.61$ ,  $p = .002$ ) were statistically significant predictors of Identify Hazing. Varsity athletes who experienced harassment hazing behaviors had odds 556% greater than their peers of identifying they were hazed when asked directly. Additionally, varsity athletes who experienced violence hazing behaviors had odds 361% greater than their peers of identifying they were hazed when asked directly. Intimidation Hazing ( $B = 0.94$ ,  $OR = 2.56$ ,  $p = .066$ ) was not a statistically significant predictor of Identify Hazing for varsity athletes. Based on these findings, I reject the null hypotheses associated with these research questions and conclude that types of hazing do predict Identify Hazing for all students and varsity athletes.

### **Summary**

In this section, I interpreted the results of chi-square and logistic regression analyses presented in Chapter Four in order to develop key findings and address the research questions and hypotheses outlined previously. These key findings have several implications for all students and varsity athletes that will be subsequently discussed. For all students at these five NCAA Division III institutions, these key findings suggest: (a) varsity athletes and fraternity and sorority members are significantly more likely to experience hazing than their peers belonging to other types of campus groups, teams, and organizations; (b) varsity athletes are significantly more likely to experience harassment hazing than their peers; (c) across levels of the social ecology there are individual level (i.e., Primary Athlete or Primary Greek, Hazing Attitudes and Perceptions) and campus level (i.e., Large Public, Mission-Driven Private) factors that predict student hazing experiences; (d) experiences with more normalized and frequently occurring hazing behaviors, as conceptualized in the spectrum of hazing, are predictive of students

experiencing less normalized and less frequently occurring hazing behaviors; and (e) types of hazing experiences are predictive of students identifying they were hazed. For varsity athletes at these institutions, these findings suggest: (a) there are statistically significant institutional differences in varsity athlete hazing experiences; (b) across levels of the social ecology there are individual level (i.e., Hazing Attitudes and Perceptions) and campus level (i.e., Large Public, Mission-Driven Private) factors that predict varsity athlete hazing experiences; (c) experiences with more normalized and frequently occurring hazing behaviors, as conceptualized in the spectrum of hazing, are predictive of varsity athletes experiencing less normalized and less frequently occurring hazing behaviors; and (d) experiences with intimidation hazing behaviors are not a statistically significant predictor of varsity athletes identifying they were hazed when asked directly. In the following discussion, descriptive statistics, the results of inferential statistical analyses, and these key findings are considered. Connections are drawn to extant literature examining college athlete hazing, contributions of this investigation are highlighted, and limitations are acknowledged.

### **Discussion**

Having conducted the statistical analyses to address the research questions guiding this investigation in Chapter Four, analyzed the results of inferential statistical analyses relative to my hypotheses, and summarized key findings, I now turn to a discussion seeking to illustrate connections to existing college athlete hazing scholarship and scholarly contributions of this study. Results and findings derived from descriptive statistics and chi-square analyses in this investigation, which have strong connections to extant college athlete hazing literature, are first considered. Following this, contributions of this study derived from logistic regression analyses are discussed. Finally, limitations related to sampling and variable selection are acknowledged.

## **Descriptive Statistics and Chi-Square Analyses**

Examining the nature and extent of hazing experienced by all students at these five NCAA Division III campuses produces results with similarities to the findings of other scholars (e.g., Allan & Madden, 2008; Allan et al., 2019; Campo et al., 2005) who have utilized descriptive statistics to examine postsecondary hazing. For instance, although the total percentage of students experiencing hazing (27.6%,  $n=529$ ) in this investigation was lower than the 55% of students who were hazed in Allan and Madden's (2008) national study, Allan and colleagues (2019) more recently found that 26% of undergraduate students at institutions participating in the Hazing Prevention Consortium (HPC) experienced hazing. Additionally, in this study a higher percentage of men (29.5%,  $n=175$ ) indicated they were hazed than their peers who identified as women, transgender, non-binary, or gender nonconforming (26.8%,  $n=354$ ). These findings are consistent with Allan and Madden (2008), Allan and colleagues (2019), and Campo and colleagues (2005), who each determined higher percentages of male students experienced hazing than female students.

Descriptive statistics for all students from this investigation support the assertion of scholars who have identified student inability to recognize hazing as a significant barrier to hazing prevention (Allan & Madden, 2008; Campo et al., 2005; Hoover, 1999). Allan and Madden (2008) found that although 55% of students experienced hazing behaviors meeting the definition of hazing, only 9% considered themselves to have been hazed. Allan and colleagues (2019) found that only 4.4% of students who experienced behaviors meeting the definition of hazing considered themselves to have been hazed. As noted previously, due to an error in the survey, participants from the Mission-Driven Private College were unable to respond to the question about whether they identified their experiences as hazing. Across the 1,453 remaining

students, 33.0% (n = 484) experienced hazing, yet only 4.8% (n=70) identified they were hazed when asked directly.

Another barrier to preventing hazing in a postsecondary context is that many students come to campus with prior hazing experiences which serve to normalize hazing (e.g., Allan & Madden, 2008; Gershel et al., 2003; Hoover & Pollard). Hoover and Pollard (2000) and Allan and Madden (2008) found that between 47% and 48% of high school students were hazed. These investigations, however, asked participants if they had experienced a variety of behaviors meeting the definition of hazing in order to join or participate in high school groups, teams, and clubs. In this study, participants were asked directly if they were hazed in high school, with 7.9% indicating they were hazed. This difference in questioning, combined with the previously illustrated inability for many students to recognize their experiences as hazing, means the lower percentage of respondents indicating they were hazed in high school reported in this study should not necessarily be interpreted as fewer students arriving to campus with prior experiences with hazing.

### ***Primary Organization***

Overall, descriptive statistic results suggest varsity athletes at these institutions have hazing experiences that are similar in frequency to their peers in fraternities and sororities and are less similar to those that belong to other types of campus organizations (e.g., academic clubs, band or performing arts organizations, club sports). Over 40% of varsity athletes (40.9%) and fraternity and sorority members (41.6%) experienced behaviors meeting the definition of hazing, compared to 19.6% of students who belonged to other organizations. Similarly, Allan and colleagues (2019) found that at HPC institutions the highest percentage of students involved in varsity athletics (42.7%) and fraternities and sororities (38.3%) experienced hazing. Other

scholars (e.g., Allan & Madden, 2008; Campo et al., 2005; Owen et al., 2008; Waldron, 2015) have also observed varsity athletics and fraternities and sororities as two types of organizations where the highest percentage of college students are hazed. Chi-square analyses from this investigation found a statistically significant relationship between students' primary organizations being varsity athletics teams or Greek life organizations and students experiencing hazing.

By examining varsity athletes', Greek life members', and other organization members' hazing experiences further and looking at the types of hazing behaviors experienced by these groups, the results of this investigation suggest that while a similar percentage of varsity athletes and fraternity and sorority members experience hazing, there are important differences in the types of hazing they experience. A higher percentage of varsity athletes in this investigation experienced harassment hazing (30.4%) than fraternity and sorority members (25.3%) and peers belonging to other types of campus organizations (10.3%). Overall, based on a chi-square analysis, the relationship between Primary Athlete and Harassment Hazing was found to be statistically significant with an effect size of practical importance (Ferguson, 2009). A higher percentage of fraternity and sorority members experienced violence hazing (15.5%) and intimidation hazing (37.1%) than varsity athletes (14.0%, 24.7%). Across the Hazing Attitudes and Perceptions scale the mean score for varsity athletes (14.79,  $SD=6.21$ ) was higher than their Greek Life (13.30,  $SD=6.14$ ) and non-athlete or Greek life (12.61,  $SD=5.14$ ) peers. Therefore, in aggregate, varsity athletes indicated having attitudes and perceptions that were more supportive of hazing than their peers.

Finally, as discussed previously in summarizing descriptive statistic results for all students, descriptive statistics for varsity athletes from this investigation support the findings of

scholars who have identified college athlete inability to recognize hazing as a barrier to prevention (e.g., Hoover, 1999; Kerschner & Allan, 2016). Although Allan and Madden (2008) and Hoover (1999) found that nearly 80% of college athletes experienced hazing, only 7% and 12% considered their experiences to have been hazing. In this investigation, across the four institutions where data related to the variable Identify Hazing were collected, 50.8% (n = 181) of varsity athletes experienced intimidation, harassment, and/or violence hazing behaviors. When asked directly, however, only 7.6% (n = 27) identified they were hazed.

### ***Demographic Characteristics***

Descriptive statistical findings for varsity athletes at these five NCAA Division III institutions indicate that a higher percentage of male varsity athletes experienced hazing (44.5%) than female varsity athletes (38.1%). A higher percentage of male varsity athletes experienced violence hazing, harassment hazing, and intimidation hazing than female varsity athletes and male varsity athletes scored higher across the Hazing Attitudes and Perceptions scale, indicating they held attitudes and perceptions more supportive of hazing than their female varsity athlete peers. These descriptive statistics are in line with the findings of scholars such as Hoover (1999), Kerschner and Allan (2016), and Lafferty and colleagues (2017) who have concluded a higher percentage of male college athletes experience hazing than female college athletes.

The hazing experiences of minoritized college athletes, however, are not as well documented in the extant literature and this investigation makes a contribution by examining the nature and extent of these hazing experiences at predominantly white institutions and within predominantly white sporting environments. At these five Division III institutions, a higher percentage of minoritized varsity athletes (46.6%) experienced hazing than white varsity athletes (39.8%). Additionally, a higher percentage of minoritized varsity athletes experienced violence



hazing (15.1% to 13.9%), harassment hazing (34.2% to 29.7%), and intimidation hazing (32.9% to 23.2%) than their white varsity athlete peers. In aggregate, minoritized varsity athletes held attitudes and perceptions of hazing that were slightly more supportive of hazing than white varsity athletes. This is in contrast to the experiences of minoritized students who, like minoritized varsity athletes, experienced higher percentages of hazing and certain types of hazing than their white student peers, but overall had attitudes and perceptions that were less supportive of hazing.

Despite these observed differences in descriptive statistics, chi-square analyses examining the relationship between varsity athlete demographic characteristics and varsity athlete hazing experiences do not indicate that statistically significant differences with practically important effect sizes exist in this investigation. Additionally, chi-square analyses examining the association between all student demographic characteristics and all student hazing experiences do not indicate that statistically significant differences with practically important effect sizes for all students exist in this investigation. None of the chi-square analyses examining the relationship between the independent variables Male and Minoritized and the dependent hazing variables for the varsity athlete or the student sample were statistically significant and had an effect size greater than the 0.200 guideline, as outlined by Ferguson (2009). Only one relationship for the varsity athlete sample, Male and Harassment Hazing, was statistically significant and had a small effect size (i.e., greater than 0.100), as described by Cohen (1992). For all students, there was a significant association between Male and Hazed in high school that had a similarly small effect size, with a higher percentage of male college students stating they were hazed in high school than female college students. Overall, the predominantly insignificant results or mitigated effect size of these chi-square analyses are in accordance with scholars such as Hamilton and

colleagues (2016) and Waldron (2015) who determined gender to not be a statistically significant predictor of college athlete hazing.

### ***Institution***

In contrast to the examination of hazing along the lines of demographic characteristics, where the results of chi-square analyses mitigate the findings of descriptive statistics, the findings of examining the hazing experiences of varsity athletes by institution are supported by chi-square analyses and these inferential statistics perhaps indicate that institutional differences in hazing are amplified in varsity athlete populations. Overall, 57.4% of varsity athletes were hazed at Academically Elite Institution A and 46.2% were hazed at the Private Liberal Arts College, compared to smaller percentages of varsity athletes experiencing hazing at Academically Elite Institution B (37.8%), Mission-Driven Private College (33.7%), and Large Public University (20.4%). Varsity athletes at Academically Elite Institution A (17.70,  $SD = 6.90$ ) and Private Liberal Arts College (14.71,  $SD = 6.35$ ) also held attitudes and perceptions more supportive of hazing across the Hazing Attitudes and Perceptions Scale than their varsity athlete peers at Mission-Driven Private College (13.74,  $SD = 5.59$ ), Academically Elite Institution B (12.84,  $SD = 4.27$ ), and Large Public University (12.49,  $SD = 4.77$ ).

Chi-square analyses suggest there are statistically significant differences between the hazing experiences of varsity athletes and all students across the institutions included in this investigation. For all students, there was a statistically significant association between institution and student experiences with hazing, violence hazing, harassment hazing, and intimidation hazing. Effect sizes for these associations were above the 0.100 guideline suggested by Cohen (1992) but below the 0.200 value outlined by Ferguson (2009), meaning for all students the association was small and perhaps not of practical importance. For varsity athletes, however,

effect sizes for Hazed (0.247), Violence Hazing (0.202), and Harassment Hazing (0.252) were larger than the effect sizes observed for all students and indicated practical importance for social science researchers.

### ***Summary***

Considering the interpretation of descriptive statistics I have presented and the key findings derived from the chi-square analyses, several results presented replicate and build on existing hazing scholarship. Descriptive statistics for all students, for instance, largely replicate the findings of scholars (e.g., Allan & Madden, 2008; Allan et al., 2019; Campo et al., 2005) who noted higher percentages of varsity athletes and fraternity and sorority members experiencing hazing than their peers involved in other types of student organizations and a gap in student experiences of hazing and their ability and willingness to identify they were hazed when asked directly. This investigation builds on these findings, however, by illustrating that, although a similar percentage of varsity athletes and fraternity members experience hazing, there are statistically significant differences in the types of hazing they experience. Varsity athletes in this study were more likely to experience harassment hazing than both their fraternity and sorority and non-athlete and non-GLO peers. Additionally, this investigation adds to the literature by examining the nature and extent of minoritized college athlete hazing experiences and showing statistically significant institutional differences in college student hazing experiences. These institutional differences in college student hazing experiences are present, and perhaps amplified, for varsity athletes. Higher percentages of minoritized varsity athletes experienced hazing and each type of hazing than their white varsity athlete peers and a significantly higher percentage of varsity athletes at some of the Division III institutions experienced hazing, violence hazing, and

harassment hazing. These contributions have implications for prevention, practice, and future research that will be subsequently discussed.

### **Logistic Regression**

Examining the results of and key findings derived from the logistic regression analyses presented in Chapter Four illustrates the contributions this investigation has made to the scholarship examining postsecondary student and college athlete hazing. For instance, although Campo and colleagues (2005) observed a correlation between student hazing experiences and positive perceptions of friends' attitudes toward hazing, this observation was focused on a social norms approach and few other scholars have examined the predictive power of students' own attitudes toward hazing (Owen et al., 2008). Owen and colleagues (2008) observed, across one midsize comprehensive university located in the South, that as the number of hazing behaviors students experienced increased, student attitudes toward hazing tended to become more positive and accepting.

This investigation has built upon Owen and colleagues' (2008) finding, creating a reliable and valid scale assessing student and varsity athlete attitudes and perceptions of hazing with predictive power and testing the scale across five participating institutions. The results of the sequential logistic regression analyses showed the Hazing Attitudes and Perceptions scale to be a statistically significant predictor of college student hazing and varsity athlete hazing, with students and varsity athletes scoring higher on the scale (i.e., having attitudes and perceptions more supportive of hazing) more likely to experience hazing. Additionally, results from the sequential logistic regression also built upon the work of scholars who have examined factors predictive of college athlete hazing (e.g., Hamilton et al., 2016; Waldron, 2015), adding in the

lens of social ecology (e.g., Bronfenbrenner, 1979; Dahlburg & Krug, 2002; Langford, 2004, 2008).

Finally, these sequential logistic regression analyses strengthened results of the descriptive statistic and chi-square analyses discussed previously by further illustrating that varsity athletes and fraternity and sorority members are more at risk for experiencing hazing than their peers involved in other organizations, with the variable Primary Athlete or Primary Greek predictive of student hazing experiences. Campus level variables (i.e., Large Public, Mission-Driven Private) were also confirmed to be predictive of college student and varsity athlete hazing experiences. Interestingly, the Prevention Activities scale was not found to be a statistically significant predictor of college student or varsity athlete hazing experiences. As I noted in the variables section, I theorized the Prevention Activities scale might be predictive of participant experiences with hazing, based on Campo and colleagues' (2005) finding that student experiences with common non-hazing team building activities, such as the behaviors included in the Prevention Activities scale, were positively correlated with student hazing experiences.

### ***Spectrum of Hazing***

Using the spectrum of hazing (Allan, 2015; Allan & Kerschner, 2020) as a theoretical framework, binary logistic regression analyses were conducted to examine if participant experiences with more frequently occurring, less likely to be recognized hazing behaviors were predictive of experiences with less frequently occurring, more likely to be recognized hazing behaviors. Overall, results of these logistic regression analyses indicate experiences with more normalized hazing behaviors are predictive of experiences with less normalized hazing behaviors (i.e., Intimidation Hazing and Harassment Hazing are predictive of participant Violence Hazing and Intimidation Hazing is predictive of participant Harassment Hazing) for all students and

varsity athletes, making a contribution to the literature. This finding builds and expands upon Hoover's (1999) conclusion that a high percentage of college athletes who experienced questionable hazing also experienced at least one unacceptable hazing behavior, illustrating that college students and varsity athletes who experience hazing often perceived to be harmless and dismissed as pranks, antics, or tradition (Allan & Madden, 2008, 2012) are at a greater risk of experiencing physically dangerous and/or humiliating and degrading hazing behaviors.

Binary logistic regression analyses were also utilized to examine if Intimidation Hazing, Harassment Hazing, and Violence Hazing were predictive of students and varsity athletes identifying they were hazed when asked directly. The results of these logistic regressions suggest that perhaps further refinement of the behaviors included in the Violence Hazing category of the spectrum of hazing or follow-up research is warranted. As Allan (2015) and Allan and Kerschner (2020) theorized, behaviors in the Violence Hazing category of the spectrum of hazing are the least frequently occurring and least normalized hazing behaviors. Therefore, it follows that student and college athlete violence hazing experiences would be more predictive of participants identifying they were hazed than intimidation hazing and harassment hazing experiences, both of which are more normalized across these populations. For both varsity athletes and all students, however, the odds of participants identifying they were hazed increased by a lower percentage with violence hazing experiences than intimidation and harassment hazing experiences. Partial support for the current conceptualization of the spectrum of hazing was derived from harassment hazing experiences increasing both student and college athlete odds of identifying they were hazed by a larger amount than intimidation hazing experiences. Intimidation hazing experiences were not found to be a statistically significant predictor of varsity athletes identifying they experienced hazing, suggesting a normalization of these behaviors in this campus subpopulation.

## Limitations

Though there are several strengths of this investigation, as I outlined throughout Chapter Three, this study is certainly not without limitations that should be considered. One limitation worth examination is the representativeness of the sample for both participating institutions and individuals. NCAA Division III is the largest division of the NCAA, providing participation opportunities to over 190,000 varsity athletes at just under 450 institutions. As discussed in the literature review, formerly comprised of academically elite institutions and liberal arts colleges, NCAA Division III underwent a period of rapid growth between 1990 and 2008, expanding institutional and philosophical diversity within the division. Given this, the five-year range over which data were collected, and the fact that institutions examined in this investigation account for 1.1% of the total membership of NCAA Division III, results from this investigation may not be generalizable across the division. Additionally, these findings are also reflective of a subset of NCAA Division III institutions that demonstrated a willingness to commit resources toward assessing the nature and extent of hazing on their campuses and therefore may not be representative of all NCAA Division III institutions.

Looking at the individuals comprising the sample in this investigation, while the sample is representative based on overall athlete percentage, one weakness is that it is less representative when examined across individual demographic characteristics for all students and varsity athletes. Male college students and male varsity athletes were underrepresented in the sample. For non-varsity athletes 27.2% identified as men, 72.0% identified as women, and 0.8% identified as transgender. Although male varsity athletes comprised a higher percentage of varsity athlete participants than male non-athletes comprised of non-athlete participants, the sample's male varsity athlete percentage (43.1%) is lower than the percentage of male varsity

athletes throughout NCAA Division III (58.3%). While this limitation may be mitigated due to the fact that some scholars have found male athletes and female athletes to be experiencing similar rates of hazing (Hamilton et al., 2013; McGlone, 2010; Waldron, 2015) it must be acknowledged. Additionally, a higher percentage of varsity athletes in this sample indicated they were white (84.5%) than the average throughout NCAA Division III (76.4%). This skewed distribution of white varsity athlete respondents led to my decision, based on the best practices outlined by Tabachnick and Fidell (2013), to collapse participants identifying as American Indian or Alaskan Native, Asian, Black, Hispanic / Latinx, Native Hawaiian or Pacific Islander, and multi-racial into the single category Minoritized. This decision resulted in tension with my critical quantitative research paradigm and there is an opportunity for future research focused on NCAA Division III to recruit participants from more racially diverse institutions. Additionally, a significant limitation of the demographic data associated with this investigation was that participants at the Mission-Driven Private College had their demographic data assigned by the institution, perhaps denying them the opportunity to select the demographic characteristics to which they most identify.

The final limitation that should be addressed is that for the sequential logistic regression predicting hazed for varsity athletes, based on the criteria for pseudo-R-square statistics outlined by Hemmert and colleagues (2018), the model weakly fit the data. This weak model fit is likely due to the lack of the inclusion of predictors across several levels of the social ecology in this investigation. While there were several individual level predictors included in this investigation (e.g., Primary Athlete or Primary Greek, Hazing Attitudes and Perceptions, Prevention Activities), many campus level predictors (e.g., Institution Location, Campus Setting, Athlete Percentage) were removed in order to avoid violating the absence of multicollinearity



requirement of logistic regression. Additionally, no group level or community level predictors were included in this investigation. Other scholars have successfully found group level predictors to be statistically significant predictors of hazing behaviors for varsity athletes (e.g., Hamilton et al., 2016; Waldron, 2015) and examined factors predictive of athlete behavior across levels of the social ecology (Fetherman & Bachman, 2016; Williams et al., 2006).

### **Summary**

In this discussion I illustrated this investigation's: (a) connection to scholarship focused on postsecondary and college athlete hazing, (b) scholarly contributions, and (c) limitations. Several results, particularly descriptive statistic results, presented replicate existing scholarship examining the nature and extent of postsecondary hazing (e.g., Allan & Madden, 2008; Allan et al., 2019; Campo et al., 2005). This investigation builds on these findings by documenting statistically significant differences in the types of hazing varsity athletes experience, statistically significant differences in varsity athlete hazing experiences by institution, and examining the nature and extent of hazing of minoritized college athlete hazing. Additional scholarly contributions are derived from the logistic regression analyses, which established the Hazing Attitudes and Perceptions scale as a predictor of student and college athlete hazing, concluded more normalized and frequently occurring hazing behaviors were predictive of less normalized and less frequently occurring hazing behaviors, and examined which behaviors were predictive of participants identifying they experienced hazing. Limitations of this study are related to factors mitigating the representativeness of the sample at both the institutional and individual levels and the lack of predictors across various levels the social ecology, which may have led to the weaker observed fit of the logistic regression predicting Hazed for varsity athletes. Next, I

examine the implications these key findings, scholarly contributions, and limitations have for prevention, practice, and future research.

### **Implications**

There are several implications for prevention, practice, and future research that can be derived from the results and key findings of this investigation. Outlining implications for prevention, I begin by discussing Allan and colleagues' (2018) guidance that effective hazing prevention feature high levels of campus commitment and take a comprehensive, campus-wide approach. I then discuss how campus professionals might position the issue of Division III athlete hazing in ways to increase campus commitment to hazing prevention before asserting that, in part due to the uniqueness of NCAA Division III athletics and in part due to the conceptual framework of campus climate guiding this investigation, varsity athlete hazing prevention initiatives may be an important first-step in a comprehensive, campus-wide approach. That is to say, hazing prevention efforts focused on varsity athletes at Division III institutions have the potential of having impact that extends beyond athletics programs. Recognizing that hazing prevention in the context of college athletics is emergent (e.g., Johnson & Chin, 2016), I provide an overview of hazing prevention strategies campus professionals working to prevent varsity athlete hazing can adapt from other areas of interpersonal violence and substance misuse with evidence of efficacy. Finally, I discuss the implications this investigation has for future research on NCAA Division III athletics and college athlete hazing.

### **Implications for Prevention and Practice**

Considering the implications for prevention and practice, the findings from this investigation suggest at these five NCAA Division III institutions: (a) all students are at risk of experiencing hazing, but varsity athletes and fraternity and sorority members are two campus

populations particularly at risk; (b) campus differences in hazing (e.g., overall percentage experiencing hazing, types of hazing experienced) are amplified amongst the varsity athlete population; (c) student and varsity athlete attitudes and perceptions of hazing are predictive of their experiences with hazing; and (d) student and varsity athlete experiences with more normalized and frequently occurring hazing behaviors (i.e., Intimidation Hazing) are predictive of their experiences with less normalized and less frequently occurring hazing behaviors (i.e., Harassment Hazing and Violence Hazing). Allan and colleagues (2018) established the Hazing Prevention Framework and noted that a comprehensive approach that addresses the issue of hazing across all campus organizations, targets various levels of the social ecology, and avoids a “one size fits all” approach is vital to sustained, effective prevention efforts. Building upon these findings, Allan and colleagues (2021) also demonstrated the importance of campus commitment to hazing prevention. Recognizing these key characteristics of effective hazing prevention in a postsecondary context and considering the findings from this investigation, I now intend to illustrate how, specifically in a Division III context, campus hazing prevention efforts with a substantial focus on preventing varsity athlete hazing can play an important role in developing the committed, comprehensive hazing prevention approach described by Allan et al. (2018).

### ***Institutional Commitment***

Practitioners seeking to bolster institutional commitment, in the form of financial support, staffing support, and leadership support, to hazing prevention at NCAA Division III institutions should seek to appeal to financial incentives and the connections between forms of interpersonal violence to establish the importance of NCAA Division III institutions demonstrating commitment to hazing prevention. The examples of NCAA Division III varsity athlete hazing provided in Chapter One, particularly the example of Wheaton College varsity athlete hazing,

illustrate the harm hazing can have on individuals, teams, institutions, and community members, providing a compelling argument for institutional commitment in the form of financial, staffing, and leadership support for hazing prevention. This is especially true when one considers that many NCAA Division III institutions are using athletics programs to drive enrollment and fulfill other strategic positioning initiatives (Beaver, 2014). Therefore, there is a need for campus commitment to hazing prevention, given the impact that hazing can have financially on a Division III institution (e.g., lawsuits, financial settlements, negative press).

Additionally, connections between hazing and other forms of interpersonal violence elucidate the need for commitment to hazing prevention at NCAA Division III institutions. Wilkins and colleagues (2014) provided an overview of the connections between various forms of interpersonal violence and high-risk behavior, illustrating interpersonal violence within a given community amplified the chances of other forms of harm, substance misuse, and violence within that community. Goodwin (2020) demonstrated the connections between hazing and sexual violence, identifying underlying risk and protective factors for both. Although college athletes in the United States are generally perceived by the public to be a healthy, not at-risk population (Etzel et al., 2006), in actuality varsity athletes are an at-risk community for hazing (e.g., Allan & Madden, 2008; Hoover, 1999), sexual violence (e.g., Boeringer, 1999; Frinter & Robinson, 1993), and high-risk drinking (e.g., Grossbard et al., 2009; Martens et al., 2006), amongst other concerns. Reflecting again on the examples of Division III athlete hazing presented in Chapter One, the hazing behaviors discussed illustrated these intersections and featured alcohol, high-risk drinking, and sexual assault. Additionally, results of this investigation indicated that varsity athletes were significantly more likely to experience harassment hazing behaviors, featuring forms of hazing connected to high-risk alcohol consumption, than their

peers. Given the high percentage of Division III varsity athletes that experienced hazing in this investigation, the work of previous scholars documenting the high percentage of Division III athletes who drink and binge drink (e.g., Bracken, 2012; Brenner et al., 2009; Fetherman & Grossman, 2018), and the potential for college athlete hazing to contribute to and amplify several other forms of violence and substance misuse within the institutional community, commitment to varsity athlete hazing prevention is warranted.

### ***Comprehensive Hazing Prevention***

Having demonstrated how practitioners can approach developing institutional commitment to hazing prevention at NCAA Division III institutions by appealing to the financial impact and contributions to other forms of violence and substance misuse that varsity athlete hazing may have, I now will illustrate how focusing on varsity athlete hazing at NCAA Division III institutions may be an important starting point for comprehensive hazing prevention. The findings from this investigation suggest the potential for student hazing experiences, particularly varsity athlete hazing experiences, to significantly vary across NCAA Division III institutions. Scholars examining issues of interpersonal violence and substance abuse within postsecondary education have commented on the importance of targeting at-risk communities (e.g., Abbey et al., 1996; Banyard et al., 2007) and contend the visible position college athletes occupy may afford them the status to encourage non-athlete peers to engage in prevention efforts (e.g., Banyard et al., 2009; Holcomb et al., 2002; Kelly, 2005).

Particularly salient to this discussion is the substantial overall impact NCAA Division III varsity athletes can have on institutional hazing climate, as conceptualized by scholars such as Cress (2002) and Hart and Fellabaum (2008). In contrast to NCAA Division I institutions where varsity athletes account for 4% of the overall student population, at NCAA Division III

institutions varsity athletes, on average, comprise 25% of the overall student body and may account for as much as 55% of the student population at some institutions (“Division III 2018-2019 facts and figures,” 2018). Additionally, NCAA Division III varsity athletes are a population that is particularly likely to be involved on campus beyond their varsity athletics team, feel supported by peers, and perceive positive campus experiences (e.g., Brenner et al., 2009; Schroeder, 2000; Umbach et al., 2006). Considering the: (a) differences in varsity athlete hazing experiences observed between institutions in this investigation, (b) demonstrated connection between the Hazing Attitudes and Perceptions scale and student and varsity athlete experiences with hazing, (c) unique potential for varsity athlete attitudes and perceptions of hazing to substantially impact the overall institutional hazing climate at many Division III institutions, and (d) potential for varsity athletes at Division III institutions to be heavily involved with other types of groups, teams, and organizations, I contend that providing hazing prevention messaging and programming to Division III varsity athletes is an important first-step in a comprehensive, campus-wide approach.

### ***Implications for Practice***

To summarize, hazing prevention efforts focused on varsity athletics at Division III institutions have the potential to bolster institutional commitment and act as an important step toward the goal of comprehensive hazing prevention. I turn now to discussing specific hazing prevention strategies campus professionals can utilize, considering lessons from prevention science and the findings of this investigation. In the context of college athletics, hazing prevention is nascent and literature evaluating prevention strategies is scarce (e.g., Capretto & Keeler, 2012; Johnson & Chin, 2016). Lessons learned from more established fields of prevention in college athletics and postsecondary contexts (e.g., sexual violence, binge drinking,

substance abuse) may be useful for campus professionals at Division III colleges and universities and provide a guide for hazing prevention. The campus ecology framework and established principles of prevention science (e.g., Dahlburg & Krug, 2002; Nation et al., 2003) provide lenses for practitioners to translate promising strategies from other fields to prevent varsity athlete hazing. Furthermore, findings from this investigation underscore the importance of examining individual, team, institution, and community factors when developing strategies for hazing prevention (Bronfenbrenner, 1979; Dahlburg & Krug, 2002; Langford, 2004).

Researchers have found social marketing campaigns, social norms messaging, and bystander intervention trainings to be effective at impacting multiple levels of the social ecology and preventing interpersonal violence, substance misuse, and sexual violence with college athletes (e.g., Doumas et al., 2010; Hummer et al., 2009; Moynihan et al., 2010). Given the strong connection between hazing attitudes and perceptions and hazing experiences observed in this study, one particularly promising strategy may be the hazing prevention documentary *We Don't Haze*. Developed using a bystander intervention framework and evaluated with 395 participants across four campuses, the documentary and associated facilitated discussion were shown to increase student knowledge of hazing, shift student attitudes and perceptions of hazing, and increase student willingness to intervene (Allan & Kerschner, 2021). Additionally, continuing to build off of the finding that varsity athlete attitudes and perceptions of hazing were predictive of their hazing experiences, social norms campaigns are another prevention strategy that practitioners working with varsity athletes can implement (Berkowitz, 2013). Notably, Cornell University conducted a social norms campaign focused on hazing for all students that produced promising results (Social Norms Campaign, 2021). Campus professionals should work with varsity athletes to create messaging that is relevant to them and seeks to highlight the high

percentages of varsity athletes that have been shown to have pro-social attitudes and perceptions of hazing (Kerschner & Allan, 2016), correcting misperceived norms resulting in pluralistic ignorance and false consensus (Berkowitz, 2013).

Beyond the potential for varsity athlete attitudes and perceptions to shift overall institutional hazing climate, there are other, smaller findings from this study that have important implications for campus professionals conducting prevention work with varsity athletes. As discussed earlier, Intimidation Hazing was not a statistically significant predictor of varsity athletes identifying they experienced hazing, suggesting intimidation hazing behaviors are largely normalized amongst varsity athletes. Prevention programming should seek to help varsity athletes understand the power dynamics associated with many intimidation hazing behaviors, the harm they can cause, and how they potentially contribute to an abusive climate. Additionally, the finding that Intimidation Hazing and Harassment Hazing were predictive of varsity athlete experiences with violence hazing may help build support for hazing prevention efforts throughout college athletic departments. As Caperchione and Holman (2004) observed, college athletics coaches tended to be skeptical of hazing prevention efforts and regard only the most extreme, violent forms of hazing an issue worth their consideration. These findings help illustrate that forms of hazing that coaches and administrators might normalize as “pranks,” “antics,” or “tradition” or consider not their responsibility to deal with are strongly associated with and predictive of varsity athletes experiencing hazing behaviors they would characterize as unacceptable (Caperchione & Holman, 2004; Crow & MacIntosh, 2009; Holman, 2004; Johnson & Donnelly, 2004; Kowalski & Waldron, 2010). Finally, these intimidation hazing behaviors and harassment hazing behaviors that are predictive of varsity athletes experiencing violence hazing may be occurring in public spaces where other athletes, coaches, or administrators can intervene.



Or, similarly, these behaviors might be so normalized amongst varsity athletes that they feel comfortable talking about their experiences with coaches, administrators, and other campus professionals engaging in hazing prevention work with varsity athletes. These findings should be taken into account and used to strengthen bystander intervention efforts focused on a varsity athlete, coach, and administrator audience.

### **Implications for Future Research**

Beyond implications for prevention and practice, the findings of this investigation hold a number of implications for future research focused on NCAA Division III and postsecondary hazing. For research focused on NCAA Division III, in my review of literature I illustrated several gaps in the extant scholarship, noting (a): quantitative studies focusing on NCAA Division III have almost exclusively utilized a postpositivist approach; (b) a myopic focus on comparing Division I and Division III varsity athlete experiences; (c) an overall totality of scholarship centering traditional, academically elite Division III institutions; and (d) a lack of research examining issues beyond academic outcomes, campus experiences, and athlete identity. Overall, this investigation began to address these gaps by utilizing a critical quantitative approach and examining differences in varsity athlete experiences within NCAA Division III, expanding institutional participation beyond academically elite institutions and private liberal arts colleges. Future NCAA Division III research should seek to build upon this, both by examining the well-established topics of academic outcomes, campus experiences, and athlete identity with the added contribution of institutional diversity and critical quantitative methods and by exploring new topics within the division. As identified in my literature review, one set of subjects that are nearly absent from the literature are the experiences of minoritized varsity athletes within NCAA Division III. Given the majority of NCAA Division III institutions are

predominantly white institutions and NCAA Division III athletics programs are even more predominantly white sporting spaces (Lapchick, 2020), critical quantitative studies examining the experiences of minoritized varsity athletes across various types of Division III institutions has tremendous potential for contributing knowledge and informing change.

Future studies of postsecondary hazing should seek to replicate and build upon this investigation's findings while addressing its current limitations. As discussed previously, one major limitation of this investigation is that the sequential logistic regression model predicting Hazed for varsity athletes weakly fits the data. This is likely due to the fact that this investigation lacked predictors across the group and community levels of the social ecology and many campus level predictors were removed from consideration in logistic regression models due to multicollinearity with other variables. Subsequent investigations examining factors predictive of college athlete and student hazing experiences should include more institutions, in order to avoid multicollinearity of campus level data. Additionally, group and community level predictors shown in other studies to be predictive of athlete hazing (e.g., Waldron, 2015) and other forms of interpersonal violence or substance misuse (e.g., Fetherman & Bachman, 2016) should be added to strengthen the analysis. Subsequent research should seek to examine the predictive ability of the Hazing Attitudes and Perceptions scale in other contexts (i.e., at other types of institutions and within other types of campus groups) and determine if, in other contexts, interpretations of the spectrum of hazing offered throughout this investigation are replicated. If subsequent investigations continue to find Violence Hazing to be less predictive of students and varsity athletes identifying they were hazed than Intimidation Hazing and Harassment Hazing, reworking of the spectrum of hazing might be appropriate. Further research could seek to adapt

the spectrum of hazing to different campus and community contexts, based on hazing behaviors that are most normalized and most readily identified as hazing in a given area.

### **Conclusion**

In conclusion, hazing is a concern throughout postsecondary education and beyond, with students participating in a range of student groups experiencing psychological, emotional, and physical harm that undermines the value of their participation. Several scholars have identified college athletes to be an at-risk group, with varsity athletes more likely than their peers to experience hazing. Despite NCAA Division III being the largest division of the NCAA, providing participation opportunities to more than 190,000 athletes at almost 450 colleges and universities, there is a dearth of scholarship focused on hazing in this context. Based on my experiences as a former NCAA Division III athlete and administrator and considering my current identification as a critical emerging scholar, I approached this investigation from a critical quantitative research paradigm. Campus climate, prevention science, the spectrum of hazing, and campus ecology were the conceptual frameworks informing this study and influencing my research questions seeking to understand the nature and extent of varsity athlete and non-athlete hazing and examine factors predictive of varsity athlete and student hazing experiences at five NCAA Division III institutions.

In conducting a review of the literature focused on NCAA Division III athletics and college athlete hazing, I identified several gaps relevant to this investigation. Specific to NCAA Division III, I noted the need for research focused on the division that: a) is not limited by small sample sizes and unrepresentative groups, (b) includes colleges and universities that are representative of the range institutional diversity that is a core characteristic of the division, rather than only including academically elite institutions, (c) examines topics beyond those

already well-represented in the scholarship (i.e., athlete academic outcomes, campus experiences, and athletic identity), and (d) expands beyond a postpositivist research paradigm. Drawing from my review of the literature examining college athlete hazing, I contend that additional empirical research focused on athlete hazing in the context of NCAA Division III was warranted due to: (a) the uniqueness of NCAA Division III from NCAA Division I and other contexts such as Canadian and United Kingdom university athletics where hazing has been examined; (b) the outsized impact that hazing can have on campus climate, given the high percentage of the student body at Division III institutions that may be at risk for experiencing hazing; and (c) the shifting identity, expansion, and scope of NCAA Division III, leading to changes in the membership composition of the division in the previous 20 years.

The methods utilized by this investigation were selected to both address the identified gaps in the extant NCAA Division III scholarship and the need for further research focused on NCAA Division III hazing, as illustrated by my literature review. This study followed a non-experimental, quantitative research design, with participating institutions representative of much of the institutional diversity within NCAA Division III. Response rates, completion rates, and instrumentation utilized in this investigation were supported by the extant literature and shown to be reliable and valid. Additionally, I justified my selection of variables based on a review of relevant literature and illustrated how collected data met the necessary assumptions to conduct the types of data analysis (i.e., descriptive statistics, chi-square analyses, logistic regression) that informed my results and key findings. For all students at the five participating NCAA Division III institutions, key findings suggest: (a) varsity athletes and fraternity and sorority members are significantly more likely to experience hazing than their peers belonging to other types of campus groups, teams, and organizations; (b) varsity athletes are significantly more likely to

experience harassment hazing than their peers; (c) across levels of the social ecology there are individual level and campus level factors that predict student hazing experiences; (d) experiences with more normalized and frequently occurring hazing behaviors, as conceptualized in the spectrum of hazing, are predictive of students experiencing less normalized and less frequently occurring hazing behaviors; and (e) types of hazing experiences are predictive of students identifying they were hazed. For varsity athletes at these institutions, key findings suggest: (a) there are statistically significant institutional differences in varsity athlete hazing experiences; (b) across levels of the social ecology there are individual level and campus level factors that predict varsity athlete hazing experiences; (c) experiences with more normalized and frequently occurring hazing behaviors, as conceptualized in the spectrum of hazing, are predictive of varsity athletes experiencing less normalized and less frequently occurring hazing behaviors; and (d) experiences with intimidation hazing behaviors are not a statistically significant predictor of varsity athletes identifying they were hazed when asked directly.

Overall, these findings replicate and expand upon the work of other scholars who have examined postsecondary and college athlete hazing. This investigation makes contributions to the literature by documenting the nature and extent of minoritized varsity athlete experiences with hazing at these Division III institutions, establishing the Hazing Attitudes and Perceptions Scale as a reliable and valid predictor of student and varsity athlete hazing, and illustrating more normalized and frequently occurring hazing behaviors were predictive of student and varsity athlete experiences with less normalized and less frequently occurring hazing behaviors. Future research should seek to replicate these findings, address the limitations of this investigation, and further interrogate the conceptualization of the violence hazing category of the spectrum of hazing. Prevention specialists and campus professionals seeking to prevent varsity athlete hazing

in a Division III context should seek to utilize the unique position Division III athletics occupy on campus to bolster institutional commitment to hazing prevention and utilize varsity athlete hazing prevention initiatives as a starting point for a comprehensive approach, adapting prevention strategies from other areas with evidence of efficacy.

## REFERENCES

- Abbey, A., Ross, L., & McDuffie, D. (1996). Alcohol and dating risk factors for sexual assault among college women. *Journal of Applied Social Psychology*, 17, 108-126.  
<https://doi.org/10.1111/j.1471-6402.1996.tb00669.x>
- Allan, E. J. (2003). Hazing and gender: Analyzing the obvious. In H. Nuwer (Ed.), *The hazing reader: Examining rites gone wrong in fraternities, professional and amateur athletics, high schools and the military* (pp. 275-294). Indiana University Press.
- Allan, E. J., & DeAngelis, G. (2004) Hazing, masculinity, and collision sports: (Un) becoming heroes. In J. Johnson & M. Holman, (Eds.), *Making the team: Inside the world of sport initiations and hazing* (pp. 61-82). Canadian Scholars' Press.
- Allan, E. J., & Madden, M. (2008). *Hazing in view: College students at risk*.  
<http://www.stophazing.org/hazing-view/>
- Allan, E. J., & Madden, M. (2012). The nature and extent of college student hazing. *International Journal of Adolescent Medicine and Health*, 24(1), 83–90.  
<https://doi.org/10.1515/ijamh.2012.012>
- Allan, E. J. (2015). The spectrum of hazing. <https://stophazing.org>
- Allan, E. J., Payne, J., & Kerschner, D. (2018). Transforming the culture of hazing: A research-based hazing prevention framework. *Journal of Student Affairs Research and Practice*, 55(4), 412-425. <https://doi.org/10.1080/19496591.2018.1474759>
- Allan, E. J., Kerschner, D., & Payne, J. (2019). College student hazing experiences, attitudes, and perceptions: Implications for prevention. *Journal of Student Affairs Research and Practice*, 56(1), 32-48. <https://doi.org/10.1080/19496591.2018.1490303>
- Allan, E. J., & Kerschner, D. (2020). The pervasiveness of the hazing phenomenon. In J. L. Meriwether, (Ed.), *Dismantling hazing in Greek-Letter organizations* (pp. 1-31). NASPA-Student Affairs Administrators in Higher Education.
- Allan, E. J., & Kerschner, D. (2021). *We Don't Haze: Testing the effectiveness of a video-based hazing prevention training for college students across group types*. Manuscript submitted for publication.
- Allan, E. J., Stewart, K., & Kerschner, D. (2021). *What does it take? Reframing commitment to campus hazing prevention*. Manuscript submitted for publication.

- Allison, P. (2001). *Missing data*. Sage Publishing. <https://doi.org/10.4135/9781412985079>
- Anderson, E., McCormack, M., & Lee, H. (2012). Male team sport hazing initiations in a culture of decreasing homophobia. *Journal of Adolescent Research*, 27, 427-448. <https://doi.org/10.1177/0743558411412957>
- APA Style (2021). Bias free language: Gender. <https://apastyle.apa.org/style-grammar-guidelines/bias-free-language/gender>
- Aries, E., McCarthy, D., Salovey, P., & Banaji, M. (2004). A comparison of athletes and non-athletes at highly selective colleges: Academic performance and personal development. *Research in Higher Education*, 45(6), 577-602. <https://doi.org/10.1023/b:rihe.0000040264.76846.e9>
- Austin, J., Yaffee, R., & Hinkle, D. (1992). Logistic regression analysis in higher education: An applied perspective. *Higher Education: Handbook of Theory and Research*, 8, 379-410.
- Bandre, M. (2011). The impact of financial aid on the enrollment and retention of student athletes at National Collegiate Athletic Association (NCAA) Division III colleges and universities: A review of the literature. *Journal of Student Financial Aid*, 41(1), 38-45. <https://ir.library.louisville.edu/jsfa/vol41/iss1/4>
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall.
- Banyard, V., Moynihan, M., & Plante, E. (2007). Sexual violence prevention through bystander education: An experimental evaluation. *Journal of Community Psychology*, 35, 463-481. <https://doi.org/10.1002/jcop.20159>
- Banyard, V., Moynihan, M., & Crossman, M. (2009). Reducing sexual violence on campus: The role of student leaders as empowered bystanders. *Journal of College Student Development*, 50, 446-457. <https://doi.org/10.1353/csd.0.0083>
- Barlow, K., & Hickey, A. (2014). Academic achievement of NCAA Division III athletes. *Journal of Research in Education*, 24(2), 116-123. <https://files.eric.ed.gov/fulltext/EJ1098178.pdf>
- Barnds, W. (2015, April 14). Division III athletics: Competing in the bigger picture. *Huffington Post*. [http://www.huffingtonpost.com/w-kent-barnds/division-iii-athletics-co\\_b\\_7055244.html](http://www.huffingtonpost.com/w-kent-barnds/division-iii-athletics-co_b_7055244.html)



- Bass, J., Pfleegor, A., Katz, M., & Schaeperkoetter, C. (2014, April). *Why D3? A holistic exploration of Division III institutions and their student-athletes*. Paper presented at the College Sports Research Institute Conference, Columbia, SC.
- Beaver, W. (2014). The changing nature of Division III athletics. *College & University*, 89(3), 34-40.
- Bell, B. A., Morgan, G. B., Schoeneberger, J. A., Kromrey, J. D., & Ferron, J. M. (2014). How low can you go? An investigation of the influence of sample size and model complexity on point and interval estimates in two-level linear models. *Methodology*, 10(1), 1-11. <https://doi.org/10.1027/1614-2241/a000062>
- Berkowitz, A. (2013). A grassroots guide to fostering healthy norms to reduce violence in our communities: Social norms toolkit. [http://socialnorms.org/wp-content/uploads/2017/03/Social\\_Norms\\_Violence\\_Prevention\\_Toolkit.pdf](http://socialnorms.org/wp-content/uploads/2017/03/Social_Norms_Violence_Prevention_Toolkit.pdf)
- Biddix, J., Matney, M., Norman, E., & Martin, G. (2014). *The influence of fraternity and sorority involvement: A critical analysis of research (1996-2013)*. *ASHE Higher Education Report* (Vol. 39). Jossey-Bass.
- Boeringer, S. (1999). Associations of rape-supportive attitudes with fraternal and athletic participation. *Violence Against Women*, 5, 81-90. <https://doi.org/10.1177/10778019922181167>
- Bok, D. (2003). *Universities in the marketplace: The commercialization of higher education*. Princeton University Press.
- Borg, L. (2018, August 10). Salve Regina investigating allegations of hazing in football program. *Providence Journal*. <https://www.providencejournal.com/news/20180810/salve-regina-investigating-allegations-of-hazing-in-football-program>
- Bowen, W., & Levin, S. (2003). *Reclaiming the game: College sports and educational values*. Princeton University Press.
- Bracken, N. (2012). National study of substance use trends among NCAA college student-athletes. National Collegiate Athletic Association.
- Branch, T. (2011). *The cartel: Inside the rise and imminent fall of the NCAA*. Byliner Inc.

- Brenner, J., Metz, S., & Brenner, C. (2009). Campus involvement, perceived campus connection, and alcohol use in college athletes. *Journal of Drug Education*, 39(3), 303-320.  
<https://doi.org/10.2190/DE.39.3.f>
- Brogan, B. (2013, April 4). Bowdoin College men's tennis team sanctioned for hazing, forfeits 4 matches. *Bangor Daily News*. <https://bangordailynews.com/2013/04/04/sports/194reek194194-college-mens-tennis-team-sanctioned-for-hazing-forfeits-4-matches/>
- Bronfenbrenner, U. (1979). *The Ecology of Human Development*. Harvard University Press, pp. 1-348. <https://doi.org/10.1080/00131728109336000>
- Bryshun, J., & Young, K. (1999). Sport-related hazing: An inquiry into male and female involvement. In P. White & K. Young (Eds.), *Sport and gender in Canada*. Oxford University Press.
- Burton, L., & Peachey, J. (2009). Transactional or transformational? Leadership preferences of Division III athletic administrators. *Journal of Intercollegiate Sport*, 2, 245-259.  
<https://doi.org/10.1123/jis.2.2.245>
- Cabrera, A. (1994). Logistic regression analysis in higher education: An applied perspective. *Higher Education: Handbook of Theory and Research*, 10, 225-256.
- Campo, S., Poulos, G., & Sipple, J. (2005). Prevalence and profiling: Hazing among college students and points of intervention. *American Journal of Health Behavior*, 29(2), 137-149. <https://doi.org/10.5993/ajhb.29.2.5>
- Caperchione, C., & Holman, M. (2004). Gender differences in coaches' perceptions of hazing in intercollegiate athletics. In J. Johnson & M. Holman, (Eds.), *Making the team: Inside the world of sport initiations and hazing* (pp. 97-117). Canadian Scholars' Press.
- Capretto, A., & Keeler, L. (2012). Examination of a hazing workshop intervention for intercollegiate sport club athletes. *Recreational Sports Journal*, 36(2), 113-126.  
<https://doi.org/10.1123/rsj.36.2.113>
- Casey, E., & Lindhorst, T. (2009). Toward a multi-level, ecological approach to the primary prevention of sexual assault. *Trauma, Violence, & Abuse*, 10(2), 91-114.  
<https://doi.org/10.1177/1524838009334129>

- Chin, J., & Johnson, J. (2011). Making the team: Threats to health and wellness within sport hazing cultures. *The International Journal of Health, Wellness and Society*, 1(2), 29-38. <https://doi.org/10.18848/2156-8960/CGP/v01i02/41167>
- Chin, J., Johnson, J., Signer-Kroeker, M., & Holman, M. (2020). From the bottom of a bottle: A sociological examination of the use of alcohol in varsity sport hazing. *International Review for the Sociology of Sport*, 55(7), 991-1008. <https://doi.org/10.1177/1012690219861607>
- Cimino, A. (2011). The evolution of hazing: Motivational mechanisms and the abuse of newcomers. *Journal of Cognition and Culture*, 11(3), 241-267. <https://doi.org/10.1163/156853711X591242>
- Cimino, A. (2013). Predictors of hazing motivation in a representative sample of the United States. *Evolution and Human Behavior*, 34(6), 446-452. <https://doi.org/10.1016/j.evolhumbehav.2013.08.007>
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112(1), 155-159. <https://doi.org/10.1037//0033-2909.112.1.155>
- Coladarci, T., & Cobb, C. (2014). *Fundamentals of statistical reasoning in education* (4<sup>th</sup> ed.). Wiley.
- Cooper, C., & Weight, E. (2012). Maximizing organizational effectiveness: NCAA Division III administrator core values and departmental culturization. *Journal of Issues in Intercollegiate Athletics*, 5, 339-353.
- Copeland, J. (2012, April 13). Inaugural DIII Week has lasting impact. <http://www.ncaa.org/about/resources/media-center/news/inaugural-diii-week-has-lasting-impact>
- Cress, C. (2002). Campus climate. In A. M. Martinez & K. A. Renn (Eds.), *Women in higher education: An encyclopedia* (pp. 390-397). ABC-CLIO, Inc.
- Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3<sup>rd</sup> ed.). Sage Publications, Inc.
- Croasmun, J., & Ostrom, L. (2011). Using Likert-type scales in the social sciences. *Journal of Adult Education*, 40(1), 19-22. <https://files.eric.ed.gov/fulltext/EJ961998.pdf>

- Crosset, T. (2007). Capturing racism: An analysis of racial projects within the Lisa Simpson vs. University of Colorado football rape case. *The International Journal of the History of Sport*, 24(2), 172-196. <https://doi.org/10.1080/09523360601045849>
- Crow, B., Ammon, R., & Phillips, D. (2004). Anti-hazing strategies for coaches and administrators. *Strategies: A Journal for Physical and Sport Educators*, 17(4), 13-15. <https://doi.org/10.1080/08924562.2004.10591094>
- Crow, B., & MacIntosh, E. (2009). Conceptualizing a meaningful definition of hazing in sport. *European Sport Management Quarterly*, 9(4), 433-451. <https://doi.org/10.1080/16184740903331937>
- Crowley, J. (2006). *In the arena: The NCAA's first century*. National Collegiate Athletic Association.
- Curtin, R., Presser, S., & Singer, E. (2000). The effects of response rate changes on the index of consumer sentiment. *Public Opinion Quarterly*, 64(4), 413-428. <https://doi.org/10.1086/318638>
- DIII celebrating 40<sup>th</sup> anniversary. (2013, October 23). <http://www.ncaa.com/news/ncaa/article/2013-09-09/diii-celebrating-40th-anniversary>.
- Dahlburg, L., & Krug, E. (2002). Violence: A global public health problem. In E. Krug, L. Dahlburg, J. Mercy, A. Zwi, & R. Lozano (Eds.), *World report on violence and health* (pp. 1-56). World Health Organization. <https://doi.org/10.1136/ip.9.1.93>
- Dee, T. (2009). Stereotype threat and the student-athlete. NBER Working Paper. <https://doi.org/10.3386/w14705>
- Dee, T. (2014). Stereotype threat and the student-athlete. *Economic Inquiry*, 52(1), 173-182. <https://doi.org/10.1111/ecin.12006>
- Dey, E. (1997). Working with low survey response rates: The efficacy of weighting adjustments. *Research in Higher Education*, 38(2), 215-227. <https://doi.org/10.1023/A:1024985704202>
- Division III 2018-2019 facts and figures. (2018). [https://ncaaorg.s3.amazonaws.com/about/d3/2018-19D3\\_FactandFigures.pdf](https://ncaaorg.s3.amazonaws.com/about/d3/2018-19D3_FactandFigures.pdf)

- Division III philosophy statement. (2016). <http://www.ncaa.org/governance/division-iii-philosophy-statement>
- Dorning, A. (2011, March 18). Middlebury College suspends most of women's swim team over hazing. *ABCNews*. <https://abcnews.go.com/US/hazing-prompts-middlebury-college-cancel-womens-swim-team/story?id=13169051>
- Draper, A. (1996). Innocence lost: Division III sports programs. *Change*, 28, 46-49. <https://doi.org/10.1080/00091383.1996.9937151>
- Doumas, D., Haustveit, T., & Coll, K. (2010). Reducing heavy drinking among first year intercollegiate athletes: A randomized control trial of web-based normative feedback. *Journal of Applied Sport Psychology*, 22(3), 247-261. <https://doi.org/10.1080/10413201003666454>
- Dymski, G. (2012, September 14). SUNY Geneseo: Volleyball season canceled after hazing. *Newsday*. <https://www.newsday.com/long-island/suny-geneseo-volleyball-season-canceled-after-hazing-1.4003680>
- Dziuban, C. D., & Shirkey, E. C. (1974). When is a correlation matrix appropriate for factor analysis? Some decision rules. *Psychological Bulletin*, 81(6), 358-361. <https://doi.org/10.1037/h0036316>
- Edwards, K. M., Banyard, V. L., Sessarego, S. N., Waterman, E. A., Mitchell, K. J., & Chang, H. (2019). Evaluation of a bystander-focused interpersonal violence prevention program with high school students. *Prevention Science*, 20, 488-498. <https://doi.org/10.1007/s11121-019-01000-w>
- Emerson, J., Brooks, R., & McKenzie, E. (2009). College athletics and student achievement: The evidence at small colleges. *New Directions for Institutional Research*, 144, 65-76. <https://doi.org/10.1002/ir.314>
- Erdfelder, E., Faul, F., & Buchner, A. (1996). GPOWER: A general power analysis program. *Behavior Research Methods, Instruments & Computers*, 28(1), 1-11. <https://doi.org/10.3758/BF03203630>
- Estler, S., & Nelson, L. (2005). *Who calls the shots? Sports and university leadership, culture, and decision making*. Wiley Periodicals. <https://doi.org/10.1002/aehe.3005>

- Etzel, E., Watson, J., Visek, A., & Maniar, S. (2006). Understanding and promoting college student-athlete health: Essential issues for student affairs professionals. *NASPA Journal*, 43(3), 518-546.
- Falla, J. (1981). *The NCAA: The voice of college sports*. National Collegiate Athletic Association.
- Feezell, T. (2009). Adding football and the “uses” of athletics at NCAA Division II and Division III institutions. *New Directions for Higher Education*, 148, 65-72.  
<https://doi.org/10.1002/he.369>
- Ferguson, C. J. (2009). An effect size primer: A guide for clinicians and researchers. *Professional Psychology: Research and Practice*, 40(5), 532-538.  
<https://doi.org/10.1037/a0015808>
- Fetherman, D., & Bachman, J. (2016). Social ecological examination of alcohol use among Division III athletes. *American Journal of Health Studies*, 31(2), 82-91.
- Fetherman, D., & Grossman, J. (2018). Exploring the experiences of Division III athletes drinking alcohol with their teams: A Qualitative study. *Journal of Intercollegiate Sport*, 11, 129-148. <https://doi.org/10.1123/jis.2017-0044>
- Field, A. (2018). *Discovering statistics using IBM SPSS Statistics* (5<sup>th</sup> ed.). Sage Publications, Inc.
- Fink, J., Pastore, D., & Riemer, H. (2003). Managing employee diversity: Perceived practices and organizational outcomes in NCAA Division III athletic departments. *Sport Management Review*, 6, 147-168. [https://doi.org/10.1016/S1441-3523\(03\)70057-6](https://doi.org/10.1016/S1441-3523(03)70057-6)
- Finkel, M. (2002). Traumatic injuries caused by hazing practices. *American Journal of Emergency Medicine*, 20(3), 228-233. <https://doi.org/10.1053/ajem.2002.32649>
- Foo, C., & Wells, J. (2011). Perceptions of the purpose of sport between NCAA Divisions III and I international and domestic student-athletes. *Journal for the Study of Sports and Athletes in Education*, 5(3), 181-196. <https://doi.org/10.1179/ssa.2011.5.3.181>
- Fosnacht, K., Sarraf, S., Howe, E., & Peck, L. (2017). How important are high response rates for college surveys? *The Review of Higher Education*, 40(2), 245-265.  
<https://doi.org/10.1353/rhe.2017.0003>

- Fried, B. (2007). Punting our future: College athletics and admissions. *Change: The Magazine of Higher Learning*, 39(3), 8-15. <https://doi.org/10.3200/CHNG.39.3.8-15>
- Frintner, M., & Robinson, L. (1993). Acquaintance rape: The influence of alcohol, fraternity membership, and sports team membership. *Journal of Sex Education and Therapy*, 19, 272-284. <https://doi.org/10.1080/01614576.1993.11074089>
- Fulks, D. (2015). *Revenues and expenses: 2004-2012 NCAA Division III intercollegiate athletics program report*. National Collegiate Athletic Association.
- Gershel, J., Katz-Sidlow, R., Small, E., & Zandieh, S. (2003). Hazing of suburban middle school and high school athletes. *Journal of Adolescent Health*, 32(5), 333-335. [https://doi.org/10.1016/S1054-139X\(03\)00021-1](https://doi.org/10.1016/S1054-139X(03)00021-1)
- Goodwin, K. E. (2020). *Investigating the intersections of interpersonal violence: Identifying risk and protective factors for hazing*. [Master's thesis, University of Maine]. UMaine Digital Commons. <https://digitalcommons.library.umaine.edu/etd/3161/>
- Griffith, K., & Johnson, K. (2002). Athletic identity and life roles of Division I and Division III collegiate athletes. *Journal of Undergraduate Research*, 5, 225-231.
- Grites, T., & James, G. (1986). Division III : Another ballgame. *NACADA Journal*, 3, 23-26.
- Grossbard, J., Hummer, J., LaBrie, J., Pederson, E., & Neighbors, C. (2009). Is substance use a team sport? Attraction to team, perceived norms, and alcohol and marijuana use among male and female intercollegiate athletes. *Journal of Applied Sport Psychology*, 21(3), 247-261. <https://doi.org/10.1080/10413200903019145>
- Gujarati, D. N., & Porter, D. C. (2009). *Basic econometrics*. McGraw-Hill Irwin.
- Gutowski, C., & St. Clair, S. (2017a, September 19). 5 Wheaton College football players face felony charges in hazing incident. *The Chicago Tribune*. <http://www.chicagotribune.com/news/local/breaking/ct-wheaton-college-football-hazing-met-20170918-story.html>
- Gutowski, C., & St. Clair, S. (2017b, September 23). Wheaton College at first stood by players accused of hazing, letter shows. *The Chicago Tribune*. <http://www.chicagotribune.com/news/local/breaking/ct-wheaton-college-hazing-charges-met-20170922-story.html>

- Gutowski, C., & St. Clair, S. (2018, March 16). Former Wheaton College football player sues school, former teammates over hazing incident. *The Chicago Tribune*.  
<https://www.chicagotribune.com/news/local/breaking/ct-met-wheaton-college-hazing-lawsuit-20180315-story.html>
- Hamilton, R., Scott, D., LaChapelle, D., & O'Sullivan, L. (2016). Applying social cognitive theory to predict hazing perpetration in university athletics. *Journal of Sport Behavior*, 39(3), 255-277.
- Hamilton, R., Scott, D., O'Sullivan, L. & LaChapelle, D. (2013). An examination of the rookie hazing experiences of university athletes in Canada. *Canadian Journal for Social Research*, 3(1), 35-61. <https://www.ciim.ca>
- Hart, J. & Fellabaum, J. (2008). Analyzing campus climate studies: Seeking to define and understand. *Journal of Diversity in Higher Education*, 1(4), 222-234.  
<https://doi.org/10.1037/a0013627>
- Hawkins, B. (2010). *The new plantation: Black athletes, college sports, and predominantly white NCAA institutions*. Palgrave Macmillan.
- Hemmert, G., Schons, L., Wieseke, J., & Schimmelpfennig, H. (2018). Log-likelihood-based pseudo-R<sup>2</sup> in logistic regression: Deriving sample-sensitive benchmarks. *Sociological Methods & Research*, 47(3), 507-531. <https://doi.org/10.1177/0049124116638107>
- Hernandez, E. (2014). What is “good” research? Revealing the paradigmatic tensions in quantitative criticalist work. *New Directions for Institutional Research*, 163, 93-101.  
<https://doi.org/10.1002/ir.20088>
- Herz, N. (2008, January 25). Hazing investigation concludes? Mild hazing? *The Bowdoin Orient*.  
<https://bowdoinorient.com/bonus/article/3211>
- Hill, J., Fies, A., & Perez, A. (2017, September 22). Wheaton College doubted football player's story of alleged hazing: Documents. *ABC News*.  
<http://abcnews.go.com/US/documents-show-wheaton-college-doubted-story-alleged-hazing/story?id=50023705>
- Holcomb, D., Savage, M., Seehafer, R., & Waalkes, D. (2002). A mixed-gender date rape prevention intervention targeting freshmen college athletes. *College Student Journal*, 36(2), 165-180.



- Holman, M. (2004). A search for a theoretical understanding of hazing practices in athletics. In J. Johnson & M. Holman, (Eds.), *Making the team: Inside the world of sport initiations and hazing* (pp. 50-60). Canadian Scholars' Press.
- Hoover, N. (1999). *National survey: Initiation rites and athletics for NCAA sports teams*. [http://www.alfred.edu/sports\\_hazing/docs/hazing.pdf](http://www.alfred.edu/sports_hazing/docs/hazing.pdf)
- Hoover, N., & Pollard, N. (2000). *Initiation rites in American high schools: A national survey*. Alfred University. <https://files.eric.ed.gov/fulltext/ED445809.pdf>
- Hosmer, D. W., & Lemeshow, S. (2000). *Applied logistic regression* (2<sup>nd</sup> ed.). Wiley.
- Huml, M. (2018). A factor structure examination of athletic identity related to NCAA divisional differences. *Journal of College Student Development*, 59(3), 376-381. <https://doi.org/10.1353/csd.2018.0035>
- Hummer, J., LaBrie, J., & Lac, A. (2009). The prognostic power of normative influences among NCAA student-athletes. *Addictive Behaviors*, 34(6), 573-580. <https://doi.org/10.1016/j.addbeh.2009.03.021>
- Hutchinson, J. (2018, February 11). Opinion: Nudity, assault, theft and suspensions at Claremont-Mudd-Scripps. *The Panther*. <http://www.thepantheronline.com/sports/nudity-assault-theft-suspensions-claremont-mudd-scripps>
- Hutchison, J., Tollefson, N., & Wigington, H. (1987). Response bias in college freshman's responses to mail surveys. *Research in Higher Education*, 26(1), 99-106. <https://doi.org/10.1007/BF00991936>
- Johnson, J., & Donnelly, P. (2004). In their own words: Athletic administrators, coaches, and athletes at two universities discuss hazing policies. In J. Johnson & M. Holman, (Eds.), *Making the team: Inside the world of sport initiations and hazing* (pp. 132-154). Canadian Scholars' Press Inc.
- Johnson, J., & Holman, M. (2009). Gender and hazing: The same but different. *Journal of Physical Education, Recreation & Dance*, 80(5), 6-9. <https://doi.org/10.1080/07303084.2009.10598315>
- Johnson, J. (2011). Through the liminal: A comparative analysis of communitas and rites of passage in sport hazing and initiations. *Canadian Journal of Sociology*, 36(3), 199-227. <https://doi.org/canajsocicahican.36.3.199>

- Johnson, J., & Chin, J. (2016). Hazing rites/rights: Using outdoor and adventure education-based orientation to effect positive change for first-year athletes. *Journal of Adventure Education and Outdoor Learning*, 16(1), 16-30. <https://doi.org/10.1080/14729679.2015.1050681>
- Johnson, J., Guerrero, M., Holman, M., Chin, J., & Signer-Kroeker, M. (2018). An examination of hazing in Canadian intercollegiate sports. *Journal of Clinical Sport Psychology*, 12(2), 144-159. <https://doi.org/10.1123/jcsp.2016-0040>
- Kassim, S., Hasan, H., Ismon, A. M., & Asri, F. M. (2013). Parameter estimation in factor analysis: Maximum likelihood versus principal component. *Proceedings of the 20<sup>th</sup> National Symposium on Mathematical Sciences: AIP Conference Proceedings*, 1522, 1293-1299. <https://doi.org/10.1063/1.4801279>
- Katz, M., & Clopton, A. (2014). Town & gown...& jerseys? NCAA Division III athletics as social anchors. *Journal of Issues in Intercollegiate Athletics*, 7, 285-306.
- Katz, M., & Seifried, C. (2014). And then there were three: The NCAA's struggle for reorganization and the emergence of Division III athletics. *Sport History Review*, 45, 145-170. <https://doi.org/10.1123/shr.2013-0010>
- Katz, M., Pfleegor, A., Schaeperkoetter, C., Bass, J. (2015). Factors for success in NCAA Division III athletics. *Journal of Issues in Intercollegiate Athletics*, 8, 102-122.
- Keating, C., Pomerantz, J., Pommer, S., Ritt, S., Miller, L., & McCormick, J. (2005). Going to college and unpacking hazing: A functional approach to decrypting initiation practices among undergraduates. *Group Dynamics: Theory, Research, and Practice*, 9(2), 104-126. <https://doi.org/10.1037/1089-2699.9.2.104>
- Kelly, J. (2005). Popular opinion leaders and HIV prevention peer education: Resolving discrepant findings and implications for the development of effective community programmes. *AIDS Care*, 16, 139-150. <https://doi.org/10.1080/09540120410001640986>
- Kelly, L. (1987). The continuum of sexual violence. In J. Hanmer & M. Maynard (Eds.), *Women, Violence, and Social Control*, (pp.46-60). Palgrave Macmillan.
- Keith, B. (2019, November 27). NCAA Division III Ursinus College cancels remainder of 2019-2020 swimming season. *SwimSwam*. <https://swimswam.com/ncaa-division-iii-ursinus-college-cancels-remainder-of-2019-20-swimming-season/>

- Kent State University. (2020, December 15). *SPSS tutorials: Chi-square test of independence*. Kent State University Libraries. <https://libguides.library.kent.edu/spss/chisquare>
- Kerschner, D., & Allan, E. (2016, April). *The nature and extent of college student-athlete hazing*. Poster session presented at the University of Maine Graduate Student Expo, Bangor, ME.
- Kirby, S., & Wintrup, G. (2002). Running the gauntlet: An examination of initiation/hazing and sexual abuse in sport. *Journal of Sexual Aggression: An international, interdisciplinary forum for research, theory and practice*, 8(2), 49-68.  
<https://doi.org/10.1080/13552600208413339>
- Kirp, D. (2003). *Shakespeare, Einstein, and the bottom line: The marketing of higher education*. Harvard University Press.
- Koop, C. (2017, September 24). At first Wheaton College game since hazing charges, fans support players. *The Daily Herald*. <https://www.dailyherald.com/news/20170923/at-first-wheaton-college-game-since-hazing-charges-fans-support-players>
- Kowalski, C., & Waldron, J. (2010). Looking the other way: Athletes' perceptions of coaches' responses to hazing. *International Journal of Sports Science & Coaching*, 5(1), 87-100.  
<https://doi.org/10.1260/1747-9541.5.1.87>
- Kuh, G. D. (2003). *The National Survey of Student Engagement: Conceptual framework and overview of psychometric properties*.  
[http://nsse.iub.edu/pdf/conceptual\\_framework\\_2003.pdf](http://nsse.iub.edu/pdf/conceptual_framework_2003.pdf)
- Laerd Statistics. (2021, January 4). *Point-biserial correlation using SPSS statistics*. Laerd Statistics. <https://statistics.laerd.com/spss-tutorials/point-biserial-correlation-using-spss-statistics.php>
- Lafferty, M., Wakefield, C., & Brown, H. (2017). "We do it for the team": Student-athletes' initiation practices and their impact on group cohesion. *International Journal of Sport and Exercise Psychology*, 15(4), 438-446.  
<https://doi.org/10.1080/1612197X.2015.1121507>
- Langford, L. (2004). *Preventing violence and promoting safety in higher education settings: Overview of a comprehensive approach*. The Higher Education Center for Alcohol and Other Drug Abuse and Violence Prevention.

- Langford, L. (2008). *A comprehensive approach to hazing prevention in higher education settings*. The Higher Education Center for Alcohol and Other Drug Abuse and Violence Prevention.
- Lapchick, R. (2020). *The 2020 racial and gender report card: College sport*. The Institute for Diversity and Ethics in Sport (TIDES). <https://www.tidesport.org/college>
- Lederman, D. (2008, April 11). Division IV is dead. *Inside Higher Ed*. <https://www.insidehighered.com/news/2008/04/11/divisioniii>
- Lemons, L. (2016). In praise of Division III athletics. *Huffington Post*. [http://www.huffingtonpost.com/l-jay-lemons/in-praise-of-division-iii\\_b\\_9636666.html](http://www.huffingtonpost.com/l-jay-lemons/in-praise-of-division-iii_b_9636666.html)
- Lenskyj, H. (2004). What's sex got to do with it? Analyzing the sex and violence agenda in sport hazing practices. In J. Johnson & M. Holman, (Eds.), *Making the team: Inside the world of sport initiations and hazing* (pp. 83-96). Canadian Scholars' Press.
- Looney, D. (1994, October 31). Pure and simple. *Sports Illustrated*, p. 66-80.
- Lott, G., & Turner, B. (2018). College sport participation and student-athlete development through the lens of emotional intelligence. *Journal of Amateur Sport*, 4(3), 1-28. <https://doi.org/10.17161/jas.v4i2.7111>
- Love, S. M., & Rufer, L. S. (2021). Am I a student or an athlete? An examination of motivation and identity in DIII student-athletes. *Journal of Issues in Intercollegiate Athletics*, 14, 67-94.
- Markham, C. (2016, September 16). UMW swim team caught for hazing, forfeit first meet. *The Blue & Gray Press*. <https://blueandgraypress.com/2016/09/16/umw-swim-team-busted-for-hazing-forfeit-first-meet/>
- Martens, M., Watson, J., & Beck, N. (2006). Sport-type differences in alcohol use among intercollegiate athletes. *Journal of Applied Sport Psychology*, 18(2), 136-150. <https://doi.org/10.1080/10413200600653758>
- Massey, D., & Tourangeau, R. (2013). Where do we go from here? Nonresponse and social measurement. *The ANNALS of the American Academy of Political and Social Science*, 645(1), 222-236. <https://doi.org/10.1177/0002716212464191>

- Mayer, G. (2006, February 16). Violations of team policy halt men's season Panthers blocked from postseason competition because of hazing offenses. *The Middlebury Campus*. <https://middleburycampus.com/4798/sports/violations-of-team-policy-halt-mens-season-panthers-blocked-from-postseason-competition-because-of-hazing-offenses/>
- McElroy, K., Bibeau, D., Stecker, A., & Glanz, K. (1988). An ecological perspective on health promotion programs. *Health Education Quarterly*, 15, 351-377. <https://doi.org/10.1177/109019818801500401>
- McFadden, D. (1979). Quantitative methods for analysing travel behaviour of individuals: Some recent developments. In D. A. Hensher and P. R. Stopher, (Eds.), *Behavioural Travel Modelling* (pp. 279-318). Croom Helm.
- McGlone, C. (2010). Hazy viewpoints: Administrators' perceptions of hazing. *International Journal of Sport Management and Marketing*, 7, 119-131. <https://doi.org/10.1504/IJSMM.2010.029716>
- McMahon, S., Allen, C. T., Postmus, J. L., McMahon, S. M., Peterson, N. A., Hoffman, M. L. (2014). Measuring bystander attitudes and behavior to prevent sexual violence. *Journal of American College Health*, 62(1), 58-66 <https://doi.org/10.1080/07448481.2013.849258>
- McMillan, J. H., & Schumacher, S. (2010). *Research in education: Evidence-based inquiry* (7<sup>th</sup> ed.). Pearson.
- Menard, S. (2010). *Logistic regression: From introductory to advanced concepts and applications*. Sage.
- Mercy, J., Rosenberg, M., Powell, K., Broome, C., & Roper, W. (1993). Public health policy for preventing violence. *Health Affairs*, 12(4), 7-29. <https://doi.org/10.1377/hlthaff.12.4.7>
- Messner, M. (1988). Sports and male domination: The female athlete as contested ideological terrain. *Sociology of Sport Journal*, 5(3), 197-211. <https://doi.org/10.1123/ssj.5.3.197>
- Messner, M. (2002). *Taking the field: Women, men, and sports*. University of Minnesota Press.
- Mignano, A., Brewer, B., Winter, C., & Van Raalte, J. (2006). Athletic identity and student involvement of female athletes at NCAA Division III women's and coeducational colleges. *Journal of College Student Development*, 47(4), 457-464. <https://doi.org/10.1353/csd.2006.0050>

- Miranda, M. (2009). Anecdote or data: Research on NCAA Division III academic performance and the Division III presidential white papers. *Journal of Intercollegiate Sport*, 1, 9-15. <https://doi.org/10.1123/jis.2.1.9>
- Moynihan, M., Banyard, V., Arnold, J., Eckstein, R., & Stapleton, J. (2010). Engaging intercollegiate athletes in preventing and intervening in sexual and intimate partner violence. *Journal of American College Health*, 59(3), 197-204. <https://doi.org/10.1080/07448481.2010.502195>
- Nation, M., Crusto, C., Wandersman, A., Kumpfer, K., Seybolt, D., Morrissey-Kane, E., & Davino, K. (2003). What works in prevention: Principles of effective prevention programs. *American Psychologist*, 58(6), 449-456. <https://doi.org/10.1037/0003-066x.58.6-7.449>
- National Collegiate Athletic Association. (2009). *Key issues related to the growth of Division III: Summary of background and recommendations* [white paper]. [https://www.ncaa.org/sites/default/files/white%2Bpaper%2Bgrid\\_2009\\_ConventionFINAL.pdf](https://www.ncaa.org/sites/default/files/white%2Bpaper%2Bgrid_2009_ConventionFINAL.pdf)
- National Collegiate Athletic Association. (2018). *Sport sponsorship, participation, and demographics search* [data file]. <http://web1.ncaa.org/rgdSearch/exec/main>
- National Research Council. (2013). *Nonresponse in social science surveys: A research agenda*. The National Academies Press.
- NCAA. (2019). NCAA Division III. <http://www.ncaa.org/d3>
- Nuwer, H. (Ed.). (2018). *Hazing: Destroying young lives*. Indiana University Press.
- Office for Human Research Protections. (2009, January 13). Determining when institutions are engaged in research. <https://www.hhs.gov/ohrp/regulations-andpolicy/guidance/determining-when-institutions-are-engaged-in-research/index.html>
- Owen, S., Burke, T., & Vichesky, D. (2008). Hazing in student organizations: Prevalence, attitudes, and solutions. *Oracle: The Research Journal of the Association of Fraternity/Sorority Advisors*, 3(1), 40-58. <https://doi.org/10.25774/7s24-ez41>
- Paule-Koba, A., & Farr, N. (2013). Examining the experiences of former D-I and D-III nonrevenue athletes. *Journal of Issues in Intercollegiate Athletics*, 6, 194-215.

- Pauline, J. (2010). Factors influencing college selection by NCAA Division I, II, and III lacrosse players. *Journal of Research in Health, Physical Education, Recreation, Sport & Dance*, 5, 62-69.
- Pauline, J. (2012). Factors influencing college selection by NCAA Division I, II, and III soccer players. *International Journal of Sport Management*, 13, 87-103.
- Pascarella, E., & Terenzini, P. (2005). *How college affects students: A third decade of research*. Jossey-Bass.
- Peng, C. (2016). Logistic regression. In D. Wyse, E. Smith, L. Suter, and N. Selwyn (Eds.), *The BERA/SAGE Handbook of Educational Research*. SAGE Publications.
- Peng, C., Lee, K., & Ingersoll, G. (2002). An introduction to logistic analysis and reporting. *The Journal of Educational Research*, 96(1), 3-14.  
<https://doi.org/10.1080/00220670209598786>
- Peng, C., & So, T. (2002). Logistic regression analysis and reporting: A primer. *Understanding Statistics*, 1(1), 31-70. [https://doi.org/10.1207/S15328031US0101\\_04](https://doi.org/10.1207/S15328031US0101_04)
- Peng, C., So, T., Stage, F., & St. John, E. (2002). The use and interpretation of logistic regression in higher education journals: 1988-1999. *Research in Higher Education*, 43, 259-293.  
<https://doi.org/10.1023/A:1014858517172>
- Peytchev, A. (2013). Consequences of survey nonresponse. *The ANNALS of the American Academy of Political and Social Science*, 645(1), 88-111.  
<https://doi.org/10.1177/0002716212461748>
- Pike, G. (2007). Adjusting for nonresponse in surveys. In J. Smart (Ed.), *Higher education: Handbook of theory and research*, vol. 22 (pp. 411-450). Springer.
- Pike, G. (2012). NSSE benchmarks and institutional outcomes: A note on the importance of considering the intended uses of a measure in validity studies. *Research in Higher Education*, 54(2), 149-170. <https://doi.org/10.1007/s11162-012-9279-y>
- Porter, S., Whitcomb, M., & Weitzer, W. (2004). Multiple surveys of students and survey fatigue. *New Directions for Institutional Research*, 121, 63-73.  
<https://doi.org/10.1002/ir.101>

- Porter, S., & Umbach, P. (2006). Student survey response rates across institutions: Why do they vary? *Research in Higher Education*, 47(2), 229-247. <https://doi.org/10.1007/s11162-005-8887-1>
- Potuto, J., & O'Hanlon, J. (2007). National study of student-athletes regarding their experiences as college students. *College Student Journal*, 41, 947-966.  
<https://www.ncaapublications.com/productdownloads/SARE06.pdf>
- Powers, E. (2008, January 15). Growing pains. *Inside Higher Ed*.  
<https://www.insidehighered.com/news/2008/01/15/ncaa>
- Rankin, S., Merson, D., Sorgen, C., McHale, I., Loya, K., & Osegurera, L. (2011). Student-athlete climate study (SACS) final report. *Center for the Study of Higher Education, The Pennsylvania State University*. <https://rankin-consulting.com/sites/default/files/publications/2011-Student-Athlete-Climate-Study-Final-Report.pdf>
- Reason, R., Terenzini, P., & Domingo, R. (2006). First things first: Developing academic competence in the first year of college. *Research in Higher Education*, 47(2), 149-175.  
<https://doi.org/10.1007/s11162-005-8884-4>
- Renn, K.A. & Patton, L. D. (2011). Campus ecology and environments. In Schuh, J. H., Jones, Susan, R., Harper, S. R. & Associates (Eds.), *Student services: A handbook for the profession*, (pp. 242-256). Jossey-Bass.
- Richards, S., & Aries, E. (1999). The Division III student-athlete: Academic performance, campus involvement, and growth. *Journal of College Student Development*, 40(3), 211-218.
- Riciputi, S., & Erdal, K. (2017). The effect of stereotype threat on student-athlete math performance. *Psychology of Sport and Exercise*, 32, 54-57.  
<https://doi.org/10.1016/j.psychsport.2017.06.003>
- Rios-Aguilar, C. (2014). The changing context of critical quantitative inquiry. *New Directions for Institutional Research*, 158, 95-107. <https://doi.org/10.1002/ir.20048>
- Robst, J., & Keil, J. (2000). The relationship between athletic participation and academic performance: Evidence from NCAA Division III. *Applied Economics*, 32(5), 547-558.  
<https://doi.org/10.1080/000368400322453>



- Rogers, S., Rogers, C., & Anderson, T. (2012). Examining the link between pledging, hazing, and organizational commitment among members of a black 209reek fraternity. *Oracle: The Research Journal of the Association of Fraternity/Sorority Advisors*, 7(1), 43-53.
- Rosnow, R., & Rosenthal, R. (2003). Effect sizes for experimenting psychologists. *Canadian Journal of Experimental Psychology*, 57(3), 221-237. <https://doi.org/10.1037/h0087427>
- Roush, J. (2016, February 29). Division III athletics: Keeping the balance. *Huffington Post*. [http://www.huffingtonpost.com/john-roush/division-iii-athletics-ke\\_b\\_9347416.html](http://www.huffingtonpost.com/john-roush/division-iii-athletics-ke_b_9347416.html)
- Rummel, R. J. (1970). *Applied Factor Analysis*. Northwestern University Press.
- Rusticus, S. A., & Lovato, C. Y. (2014). Impact of sample size and variability on the power and Type I error rates of equivalence tests: A simulation study. *Practical Assessment, Research, and Evaluation*, 19(11), 1-10. <https://doi.org/10.7275/4s9m-4e81>
- Sablan, J. R. (2019). Can you really measure that? Combining critical race theory and quantitative methods. *American Educational Research Journal*, 56(1), 178-203. <https://doi.org/10.3102/0002831218798325>
- Sack, A. (2009). Clashing models of commercial sport in higher education: Implications for reform and scholarly research. *Journal of Issues in Intercollegiate Athletics*, 2, 76-92.
- Sack, A., & Staurowsky, E. (1998). *College athletes for hire: The evolution and legacy of the NCAA's amateur myth*. Praeger Publishers.
- Sarraf, S. (2005). *An evaluation of nonresponse effect in the National Survey of Student Engagement*. Center for Postsecondary Research, Indiana University.
- Sax, L., Gilmartin, S., Lee, J., & Hagedorn, L. (2008). Using web surveys to reach community college students: An analysis of response rates and response bias. *Community College Journal of Research and Practice*, 32(9), 712-729. <https://doi.org/10.1080/10668920802000423>
- Schroeder, P. (2000). An assessment of student involvement among selected NCAA Division III basketball players. *Journal of College Student Development*, 41(6), 616-626.
- Schwartzburg, A. (2010, September 27). In defense of sports teams' shenanigans. *The College Voice*. <https://thecollegevoice.org/2010/09/27/teamshenanigans/>

- Segura, J., & Willner, J. (2020). Athleticism in NCAA D-III: It ain't only football that matters. *Journal of Sports Economics*, 20(7), 929-958. <https://doi.org/10.1177/1527002519832070>
- Silveira, J., & Hudson, M. (2015). Hazing in the college marching band. *Journal of Research for Music Education*, 63(1), 5-27. <https://doi.org/10.1177/0022429415569064>
- Simon, R. (2010). *Fair play: The ethics of sport*. Westview Press.
- Smith, H., & Stellino, M. (2007). Cognitive dissonance in athletic hazing: The roles of commitment and athletic identity. *Sport and Exercise Psychology*, 29, 169-170.
- Smith, R. (2011). *Pay for play: A history of big-time college athletic reform*. University of Illinois Press.
- Snowdon, H., & Rod, M. (2018, February 18). CMS track teams suspended indefinitely after naked athletes allegedly assault Pomona student. *The Student Life*. <https://tsl.news/news7224/>
- Social Norms Campaign. (2020). <https://hazing.cornell.edu/prevention/social-norms-campaign>
- Sparvero, E., & Warner, S. (2013). The price of winning and the impact on the NCAA community. *Journal of Intercollegiate Sport*, 6, 120-142. <https://doi.org/10.1123/jis.6.1.120>
- Srabstein, J. (2008). Deaths linked to bullying and hazing. *International Journal of Adolescent Medicine and Health*, 20(2), 235-239. <https://doi.org/10.1515/IJAMH.2008.20.2.235>
- Srabstein, J., Joshi, P., Due, P., Wright, J., Leventhal, B., Merrick, J.,...Riibner, K. (2008). Prevention of public health risks linked to bullying: A need for a whole community approach. *International Journal of Adolescent Medicine and Health*, 20(2), 185-199. <https://doi.org/10.1515/ijamh.2008.20.2.185>
- Stage, F. K. (2007). Answering critical questions using quantitative data. *New Directions for Institutional Research*, 133, 5-16. <https://doi.org/10.1002/ir.200>
- Stage, F. K., & Wells, R. S. (2014). Critical quantitative inquiry in context. *New Directions for Institutional Research*, 158, 1-7. <https://doi.org/10.1002/ir.20041>

- Stokols, D. (1996). Translating social ecological theory into guidelines for community health promotion. *American Journal of Health Promotion*, 10(4), 282-298.  
<https://doi.org/10.4278/0890-1171-10.4.282>
- Streiner, D. (2003). Starting at the beginning: An introduction to coefficient alpha and internal consistency. *Journal of Personality Assessment*, 80, 99-103.  
[https://doi.org/10.1207/S15327752JPA8001\\_18](https://doi.org/10.1207/S15327752JPA8001_18)
- Sturm, J., Feltz, D., & Gilson, T. (2011). A comparison of athlete and student identity for Division I and Division III athletes. *Journal of Sport Behavior*, 34(3), 295-306.
- Suggs, W. (2006). Historical overview: At play at America's Colleges. In R. Lapchick (Ed.), *New game plan for college sport* (pp. 1-28). Praeger Publishers.
- Tabachnick, B., & Fidell, L. (2013). *Using Multivariate Statistics*. Pearson Education.
- Tabron, L. A. (2019). I pulled up a seat at the table: My journey engaging in critical quantitative inquiry. In K. K. Strunk & L. A. Locke (Eds.), *Research methods for social justice and equity in education* (pp. 275-282). Palgrave MacMillan. <https://doi.org/10.1007/978-3-030-05900-2>
- Thelin, J. (1996). *Games colleges play: Scandal and reform in intercollegiate athletics*. The Johns Hopkins University Press.
- Thelin, J. (2011). *A history of American higher education* (2<sup>nd</sup> ed.). The Johns Hopkins University Press.
- UCLA Statistical Consulting Group. (2020, December 14). *Principal components (PCA) and exploratory factor analysis (EFA) with SPSS*. UCLA Institute for Digital Research & Education Statistical Consulting. <https://stats.idre.ucla.edu/spss/seminars/efa-spss/>
- Umbach, P., Palmer, M., Kuh, G., & Hannah, S. (2006). Intercollegiate athletes and effective educational practices: Winning combination or losing effort? *Research in Higher Education*, 47(6), 709-733. <https://doi.org/10.1007/s11162-006-9012-9>
- U.S. Department of Education (2020, December 17). *EADA equity in athletics data analysis*. U.S. Department of Education. <https://ope.ed.gov/athletics/#/>
- Van Raalte, J., Cornelius, A., Linder, D. & Brewer, B. (2007). The relationship between hazing and team cohesion. *Journal of Sports Behavior*, 30, 491-507.

- Waldron, J., & Kowalski, C. (2009). Crossing the line. *Research Quarterly for Exercise and Sport*, 80(2), 291-302. <https://doi.org/10.1080/02701367.2009.10599564>
- Waldron, J., Lynn, Q., & Krane, V. (2011). Duct tape, icy hot & paddles: Narratives of initiation onto US male sport teams. *Sport, Education and Society*, 16 (1), 111-125. <https://doi.org/10.1080/13573322.2011.531965>
- Waldron, J. (2015). Predictors of mild hazing, severe hazing, and positive initiation rituals in sport. *Journal of Sports Science & Coaching*, 10(6), 1089-1101. <https://doi.org/10.1260/1747-9541.10.6.1089>
- Ward, C. (2018, September 18). Settlement reached in lawsuit filed over Wheaton College football hazing incident. *The Chicago Tribune*. <https://www.chicagotribune.com/suburbs/ct-met-wheaton-college-hazing-civil-suit-settlement-20180918-story.html>
- Ward, C. (2019, March 22). ‘Least culpable’ of ex-Wheaton College football players charged in hazing incident pleads guilty to misdemeanor. *The Chicago Tribune*. <https://www.chicagotribune.com/suburbs/ct-met-wheaton-college-football-hazing-plea-20190322-story.html>
- Washington, M. (2004). Field approaches to institutional change: The evolution of the National Collegiate Athletic Association 1906-1995. *Organizational Studies*, 25, 393-414. <https://doi.org/10.1177/0170840604040042>
- Watt, S., & Moore, J. (2001). Who are student athletes? *New Directions for Student Services*, 93, 7-18. <https://doi.org/10.1002/ss.1>
- Wheaton College (2017, September 20). Statement on charges in hazing incident. <https://www.wheaton.edu/news/statements/statement-on-charges-in-hazing-incident/>
- Wilkins, N., Tsao, B., Hertz, M., Davis, R., & Klevens, J. (2014). *Connecting the dots: An overview of the links among multiple forms of violence*. Atlanta, GA: National Center for Injury Prevention and Control.
- Williams, J., Colles, C., & Allen, K. (2010). Division III athletes: Perceptions of faculty interactions and academic support services. *Journal of Issues in Intercollegiate Athletics*, 3, 211-233.

- Williams, R., Perko, M., Belcher, D., Leaver-Dunn, D., Usdan, S., & Leeper, J. (2006). Use of the social ecology model to address alcohol use among college athletes. *American Journal of Health Studies*, 21(4), 228-237.
- Willits, F., Theodori, G., & Luloff, A. (2016). Another look at Likert scales. *Journal of Rural Social Sciences*, 31(3), 126-139.
- Willner, J. (2019). Private universities and NCAA D-III athletics as a general recruiting tool. *International Advances in Economic Research*, 25(3), 293-307.  
<https://doi.org/10.1007/s11294-019-09745-4>
- Woods, A., McNiff, J., & Coleman, L. (2018). A comparative analysis: Assessing student engagement on African-American male student-athletes at NCAA divisional and NAIA institutions. *Education Around the World*, 138(4), 356-368.
- Young, K., & White, P. (1995). Sport, physical danger, and injury: The experiences of elite women athletes. *Journal of Sport and Social Issues*, 19(1), 45-61.  
<https://doi.org/10.1177/019372395019001004>
- Zimbalist, A. (1999). *Unpaid professionals: Commercialism and conflict in big-time college sports*. Princeton University Press.

## APPENDIX



This is a draft survey for review only. Do not distribute this survey without the expressed permission of StopHazing

**\* 1. How old are you?**

- ☐ Less than 18 years
- ☐ 18 - 22 years
- ☐ 23 - 25 years
- ☐ more than 25 years old

**\* 2. Are you a:**

- ☐ Full-time student
- ☐ Part-time student

**\* 3. Are you currently a:**

- ☐ 1st -year undergraduate student
- ☐ 2nd -year undergraduate student
- ☐ 3rd -year undergraduate student
- ☐ 4th -year undergraduate student
- ☐ 5th -year undergraduate student
- ☐ 6th -year undergraduate student
- ☐ Graduate student

**4. To which gender identity do you most identify?**

- ☐ Male
- ☐ Female
- ☐ Transgender
- ☐ Queer
- ☐ Non-Binary and/or Gender Non-Conforming
- ☐ Not listed (please specify)

**5. To which sexual orientation do you most identify?**

- ☐ Asexual
- ☐ Bisexual
- ☐ Gay
- ☐ Heterosexual
- ☐ Lesbian
- ☐ Pansexual
- ☐ Queer
- ☐ Unsure / Questioning
- ☐ Not listed (please specify)

**6. Are you:**

- ☐ American Indian or Alaskan Native
- ☐ Asian
- ☐ Black or African American (non-Hispanic)
- ☐ Hispanic/Latino (including Mexican American and Puerto Rican)
- ☐ Native Hawaiian or Other Pacific Islander
- ☐ White
- ☐ Multi-racial
- ☐ Not listed (please specify)

**7. Do you live:**

- ☐ On-campus in a residence hall / apartment
- ☐ On-campus in special group housing (e.g., honors housing)
- ☐ In a sorority or fraternity house
- ☐ Off campus with family or alone
- ☐ Off campus in a shared residence with other students
- ☐ Off campus in affiliated housing

**8. Is your cumulative grade point average?**

- ☐ 2.0 or below
- ☐ 2.1 - 2.5
- ☐ 2.6 - 3.0
- ☐ 3.1 - 3.5
- ☐ 3.6 - 4.0



**\* 9. Please select any of the activities listed below that you belong to now or have belonged to in the past at [insert institution]**

- ☐ ☐ Academic club (e.g., Golden Key, Society for Women Engineers)
- ☐ ☐ Band or other performing arts organization (e.g., acapella group, chorus, drama, dance team)
- ☐ ☐ Club sport (e.g., rugby)
- ☐ ☐ Culturally-based organization
- ☐ ☐ Faith-based organization
- ☐ ☐ Fraternity or sorority
- ☐ ☐ Honor society
- ☐ ☐ Intramural or recreation team
- ☐ ☐ Political organization
- ☐ ☐ ROTC or other military organization
- ☐ ☐ Service or professional fraternity or sorority (e.g., Alpha Phi Omega, Alpha Kappa Psi)
- ☐ ☐ Service club or organization
- ☐ ☐ Social club (e.g., gaming club)
- ☐ ☐ Student government or other student leadership organization
- ☐ ☐ Varsity athletic team
- ☐ ☐ Do not or have not belonged to any organizations at [insert institution]
- ☐ ☐ Other type of organization

**\* 10. Reflect on your time at [insert institution] thus far. Based on the teams or organizations you indicated you belong to now or have belonged to in the past, in which group have you been most involved?**

- ☐ Academic club
- ☐ Band or other performing arts organization
- ☐ Club sport
- ☐ Culturally-based organization
- ☐ Faith-based organization
- ☐ Fraternity or sorority
- ☐ Honor society
- ☐ Intramural or recreation team
- ☐ Political organization
- ☐ ROTC or other military organization
- ☐ Service or professional fraternity or sorority
- ☐ Service club or organization
- ☐ Social club
- ☐ Student government or other student leadership organization
- ☐ Varsity athletic team
- ☐ Other type of organization

**11. How would you rate your experience as a member of the organization, group, or team?**

- ☐ Extremely positive
- ☐ Positive
- ☐ Slightly positive
- ☐ Neither positive nor negative
- ☐ Slightly negative
- ☐ Negative
- ☐ Extremely negative

**12. Feeling like a part of the group is important. Please indicate if you or others were encouraged to do any of the following to join or maintain membership in/on your [Q11], which you reported being most involved with during your time [insert institution].**

	Happened to me	Happened to others on team or in group	Happened to me & others on team or in group	Did not happen to me or to others
Participate in a group outing with other members (e.g., canoe trip) led by a trained professional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attend an alcohol-free function with members	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do volunteer community service together	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Complete a challenge or ropes course facilitated by a trained professional.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**13. Feeling like a part of the group is important. Please indicate if you or others were encouraged to do any of the following to join or maintain membership in/on your [Q11], which you reported being most involved with during your time [insert institution].**

	Happened to me	Happened to others on team or in group	Happened to me & others on team or in group	Did not happen to me or to others
Attend a skit night or roast where other members are humiliated	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sing or chant, by yourself or with other new members in a public situation that is not a related event, game, or practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Be yelled, screamed, or cursed at by other members	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wear clothing that is embarrassing and not part of a uniform	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Happened to me	Happened to others on team or in group	Happened to me & others on team or in group	Did not happen to me or to others
Get a tattoo or pierce a body part	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shave your head or other body parts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have humiliating or degrading things written on your clothes or body	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Be branded	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Associate with specific people and not others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Act as a personal servant to other members	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Be deprived of food	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Be deprived of sleep	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Skip regular hygiene practices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Start or participate in a food fight	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mark areas of fat on your body	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Be awakened at night by other members	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Endure harsh weather conditions without proper clothing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Be nude or partially nude in front of group or in public place	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participate in a "kangaroo" court or mock trial	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**14. Feeling like a part of the group is important. Please indicate if you or others were encouraged to do any of the following to join or maintain membership in/on your [Q11], which you reported being most involved with during your time [insert institution].**

	Happened to me	Happened to others on team or in group	Happened to me & others on team or in group	Did not happen to me or to others
Drink or eat gross stuff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make prank phone calls or harass others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Destroy or steal property	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Be tied up, taped or confined to small space	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dropped off in an unfamiliar location	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Be paddled or slapped	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Carry bricks or heavy object for extended periods	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Be whipped, kicked or beaten	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drink large amounts of a non-alcoholic beverage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participate in a drinking game	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drink large amounts of an alcoholic beverage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Watch live sex acts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Simulate sex acts in front of same gender	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Simulate sex acts in front of other gender	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do sex acts with same gender	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do sex acts with other gender	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Keep a tally of men or women with whom you had sex	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 15. Did you select "Did not happen to me or to others" for all rows in the last two questions (Questions 14 and 15) on this page that ask about behaviors encouraged or required to join or maintain membership in/on your [Q11]?

- ☐ Yes
- ☐ No

16. Were you aware of these activities prior to joining your [Q11]?

- ☐ Yes
- ☐ No
- ☐ Somewhat

17. Was the coach or advisor of your [Q11]:

- ☐ Aware of the activities but not present
- ☐ Present but not involved during the activities
- ☐ Present and involved in the activities
- ☐ Group does not have a coach or advisor
- ☐ None of the above

18. Were any alumni of your [Q11] (other than an advisor) present during the activities?

- ☐ Yes
- ☐ No

19. Where did most of the activities occur?

- ☐ On campus in a public building (e.g., dining hall, classrooms, student union)
- ☐ On campus in an outdoor public space
- ☐ On campus in a dorm or other private living area
- ☐ Off campus in a private residence (e.g., fraternity or sorority house, sports team member residence, apartment)
- ☐ Off campus public space (e.g., shopping mall, park, woods)

20. What time of day did most of the activities occur?

- ☐ In the morning (4am-10am)
- ☐ In the late morning / afternoon (10am-4pm)
- ☐ In the evening (4pm-10pm)
- ☐ At night (10pm-4am)

**21. Did you share pictures or video of the groups' activities on a social media site or application such as Facebook, Instagram, or Snapchat?**

- ☐ Yes  
☐ No

**22. Did any other member of your [Q11] share pictures or video of the activities on a social media site or application such as Facebook, Instagram, or Snapchat?**

- ☐ Yes  
☐ No  
☐ Not sure

**23. Did you talk with any of the following individuals about your experience? (Select all that apply)**

- ☐ Another member of the group, organization, or team  
☐ Boyfriend, girlfriend, or partner  
☐ Friend not on the team or in the group  
☐ Resident Advisor  
☐ Team captain or student leader  
☐ Coach or advisor  
☐ Staff or faculty member who is not part of the group, organization, or team  
☐ Family member  
☐ Counselor  
☐ Police Officer  
☐ Other (please specify)

**24. As a result of participating in any of the activities, did you: (Select all that apply)**

- ☐ Feel more like a part of the team or group  
☐ Feel a sense of accomplishment  
☐ Feel confident  
☐ Feel stronger  
☐ Gain valuable experience  
☐ Develop valuable skills  
☐ Do better in classes  
☐ None of the above

**25. As a result of participating in any of the activities, did you: (Select all that apply)**

- ☐ ☐ Feel less like a part of the team or group
- ☐ ☐ Feel humiliated or degraded
- ☐ ☐ Feel ashamed, guilty, or depressed
- ☐ ☐ Feel in danger
- ☐ ☐ Feel stressed
- ☐ ☐ Have difficulty sleeping
- ☐ ☐ Incur physical injuries
- ☐ ☐ Have trouble with academics
- ☐ ☐ Have problems in your relationships with friends and/or family
- ☐ ☐ Quit the team, club, or organization and/or consider transferring
- ☐ ☐ None of the above

**26. Have you heard of other teams or organizations on your campus engaging in activities (other than alcohol-free activities, community service or supervised group outings or supervised group challenges) to initiate their new members?**

- ☐ Yes
- ☐ No

**27. Have you witnessed other teams or organizations on your campus engaging in activities (other than alcohol-free activities, community service and supervised group challenges) to initiate their new members?**

- ☐ Yes
- ☐ No

**\* 28. Have you ever been hazed in order to join or maintain membership in/on your [Q11]?**

- ☐ Yes
- ☐ No
- ☐ Not sure



**29. Did you report the events to:**

	Yes	No
College staff or faculty	<input type="radio"/>	<input type="radio"/>
Organization advisor or coach	<input type="radio"/>	<input type="radio"/>
Organization president or team captain	<input type="radio"/>	<input type="radio"/>
Inter/National organization	<input type="radio"/>	<input type="radio"/>
Anonymously through website	<input type="radio"/>	<input type="radio"/>
Anonymously through hotline	<input type="radio"/>	<input type="radio"/>

**30. If you did not report the events, which of the following apply? (select all that apply)**

- ☐ I did not know where to report it.
- ☐ Didn't want to be an outsider if others found out I reported it.
- ☐ I was afraid of negative consequences to me from other team or group members.
- ☐ I was afraid I could be hurt by team or group members if they learned I reported it.
- ☐ I didn't want to get my team or organization in trouble.
- ☐ It was no big deal.
- ☐ No one got hurt.
- ☐ It was tradition.
- ☐ I chose to participate.
- ☐ There was nothing wrong with the activity.
- ☐ The coach or advisor knew about the event.
- ☐ Other (please explain)

**\* 31. Have you ever been hazed when joining any other team or organization at [insert institution]?**

- ☐ Yes
- ☐ No
- ☐ Not Sure

**32. What type of organization did it involve? Please select all that apply.**

- ☐ Academic club (e.g., Golden Key, Society for Women Engineers)
- ☐ Band or other performing arts organization (e.g., acapella group, chorus, drama, dance team)
- ☐ Club sport (e.g., rugby)
- ☐ Culturally-based organization
- ☐ Faith-based organization
- ☐ Fraternity or sorority
- ☐ Honor society
- ☐ Intramural or recreation team
- ☐ Political organization
- ☐ ROTC or other military organization
- ☐ Service or professional fraternity or sorority (e.g., Alpha Phi Omega, Alpha Kappa Psi)
- ☐ Service club or organization
- ☐ Social club (e.g., gaming club)
- ☐ Student government or other student leadership organization
- ☐ Varsity athletic team
- ☐ Other type of organization

**33. Have you ever participated in hazing someone else while at [insert institution]?**

- ☐ Yes
- ☐ No
- ☐ I'm not sure

**34. Were you ever hazed in high school?**

- ☐ Yes
- ☐ No
- ☐ I'm not sure

**35. Did you participate in hazing someone else while in high school?**

- ☐ Yes
- ☐ No
- ☐ I'm not sure

**36. Does [insert institution] have an anti-hazing policy?**

- ☐ Yes
- ☐ No
- ☐ Unsure

37. The following questions ask about your opinions related to hazing. Please select the response that best matches your opinion.

[illegible]



**38. Please use this space to tell us anything else you would like us to know about your experiences joining campus teams or organizations. Feel free to elaborate - there is plenty of space below.**

## BIOGRAPHY OF THE AUTHOR

David Kerschner was born in Portland, Maine on January 16, 1986. He was raised in Oakland, Maine and graduated from Messalonskee High School in 2004. He attended the University of Maine at Farmington (UMF), where he was a four-year member of the men's basketball team, team captain, and president of the UMF Student-Athlete Advisory Committee. He graduated from UMF *Summa Cum Laude* with a Bachelor of Arts in History and Mathematics in 2009. He then enrolled in graduate school at the University of Massachusetts (UMass), earning his Master of Science in Sport Management in September 2010, and the University of Southern Maine (USM), earning his Master of Business Administration (MBA) in August 2012. During his graduate education, he served as a sociology of sport graduate assistant at UMass and completed internships focused on NCAA Division III athletics with the North Atlantic Conference, Mouth Holyoke College Athletics, and USM Athletics. Following the completion of his MBA, David accepted a position with Amherst College Athletics, working as a fellow with AmherstLEADS, a leadership development program for Amherst College varsity athletes.

Since 2013, David has been a research associate for StopHazing and the Hazing Prevention Consortium. Since 2019, he has been a Janet Waldron Doctoral Research Fellow at the University of Maine. In these roles he has published peer-reviewed manuscripts on hazing and hazing prevention in the *Journal of Amateur Sport*, the *Journal of School Counseling*, *Evaluation and Program Planning*, and the *Journal of Student Affairs Research and Practice*. Building off of this research experience and his experience as a NCAA Division III athlete and administrator, he aspires to conduct research that will inform practice and change in college

athletics. He is a candidate for the Doctor of Philosophy degree in Higher Education from The University of Maine in May 2021.